Energy Tidbits

900,000 b/d of Crude Demand Currently Hit by Strikes & Accidents Halting Major France Refinery Operations

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https://nationalpost.com/pmn/news-pmn/disaster-pmn/freeport-lng-cancels-some-march-cargoes-on-restart-hiccups-sources

Freeport LNG cancels some March cargoes on restart hiccups- sources

Author of the article:

REUTERS

Reuters
Marwa Rashad and Julia Payne
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LONDON — The second biggest U.S. liquefied natural gas (LNG) export plant, Freeport, has canceled up to four shipments of LNG, due to restart snags after an eight-month-long outage, trading sources told Reuters.

In addition, the facility has recently loaded another vessel with a lower amount of gas than originally planned, two of the sources added.

“You arrive with your vessel to load at a given time and they say ‘yes you can load’, but then an hour later it doesn’t. They blame the long shutdown for restart hiccups,” a trading source familiar with the matter said.

When contacted by Reuters, a Freeport LNG spokesperson said that the company does not comment on commercial activity which includes its cargo schedules.

The company said earlier this month that changes in feed gas flows and production rates are to be anticipated, given the duration of the plant’s outage as it continues the restart process and the plant is expected to return to full production over the next few weeks.

U.S. federal regulators have approved the restart of two of Freeport LNG’s three liquefaction trains (Trains 2 and 3) in February and the third train (Train 1).

Accounting for 20% of U.S. LNG exports, resumption of the facility is important for global LNG supplies, especially as Europe is rebuilding its gas storage after Russia cut gas exports following Moscow’s invasion of Ukraine.

Current demand for LNG in Europe is not as high as previously due to a mild winter, high inventory levels and reduced industrial demand.

But demand could rise again amid forecasts of a hot summer, low hydro levels and an uptick in Chinese demand after the easing of COVID-19 restrictions.

When operating at full power, Freeport can turn about 2.1 billion cubic feet per day of gas into LNG for export. (Reporting by Marwa Rashad and Julia Payne in London, additional reporting by Emily Chow in Singapore; Editing by Nina Chestney) https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/032423-gas-markets-keep-watchful-eye-as-feedgas-to-freeport-lng-returns-in-fits-and-starts

- 24 Mar 2023 | 21:26 UTC

Gas markets keep watchful eye as feedgas to Freeport LNG returns in fits and starts

-
- Author**Corey Paul** **J Robinson**
- Editor**Gary Gentile**

HIGHLIGHTS

Daily feedgas deliveries top 1 Bcf/d, March 21-24

Houston Ship Channel cash basis tightens

Freeport to be largest global supply gain in 2023

A halting restart to LNG production at Freeport LNG has lifted basis prices in the East Texas gas market this month as the terminal's rocky return to full commercial service keeps US and global gas markets on edge.

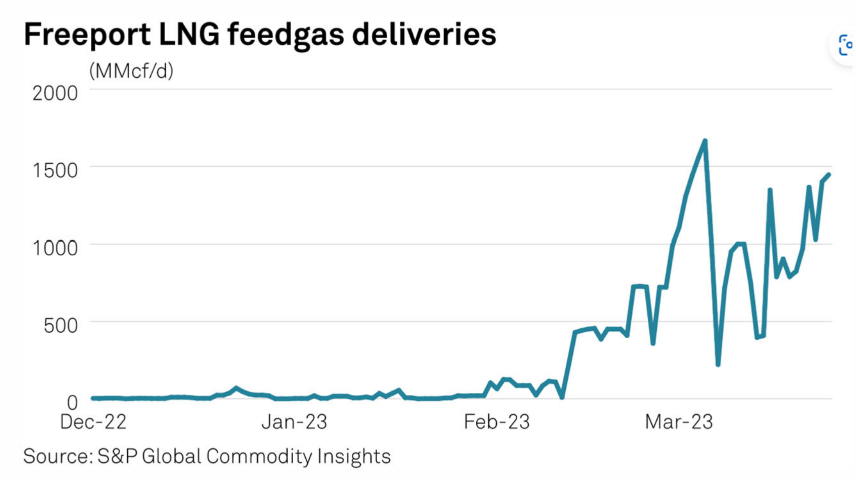
In March, gas deliveries to the Quintana Island liquefaction plant have averaged just over 1 Bcf/d. But flows to the terminal have swung significantly, ranging from as high as nearly 1.7 Bcf/d on March 5 to as low as about 220 MMcf/d on March 7, data from S&P Global Commodity Insights shows. Freeport was on track to receive more than 1.4 Bcf/d of feedgas on March 24 after topping 1 Bcf/d for the previous three days, based on evening cycle nomination data that could later be revised.

The return of Freeport from an eight-month-long outage has helped lift overall US LNG feedgas deliveries, which are now on pace for a new monthly average high of nearly 13.1 Bcf/d through March 24 – a figure that's on track to top the historical monthly record of 12.8 Bcf/d set in March 2022. Market participants are watching the ramp-up of operations at Freeport as a factor that could bolster languishing Gulf Coast gas prices as it tightens regional market fundamentals.

On the NYMEX, the US gas futures market has so far largely shrugged off the restart of feedgas demand at Freeport. In recent trading, the Henry Hub prompt-month contract has dipped as low as $2.13/MMBtu as traders zero-in on the expected supply impact from a now massive US storage surplus.

In the East Texas gas market, though, additional feedgas demand from Freeport has undoubtedly tightened the supply-demand balance there. At Houston Ship Channel, cash prices have strengthened to an average 24 cents discount to Henry Hub this month – up from a 42 cents discount in February and 67 cents discount in January, Platts data shows.

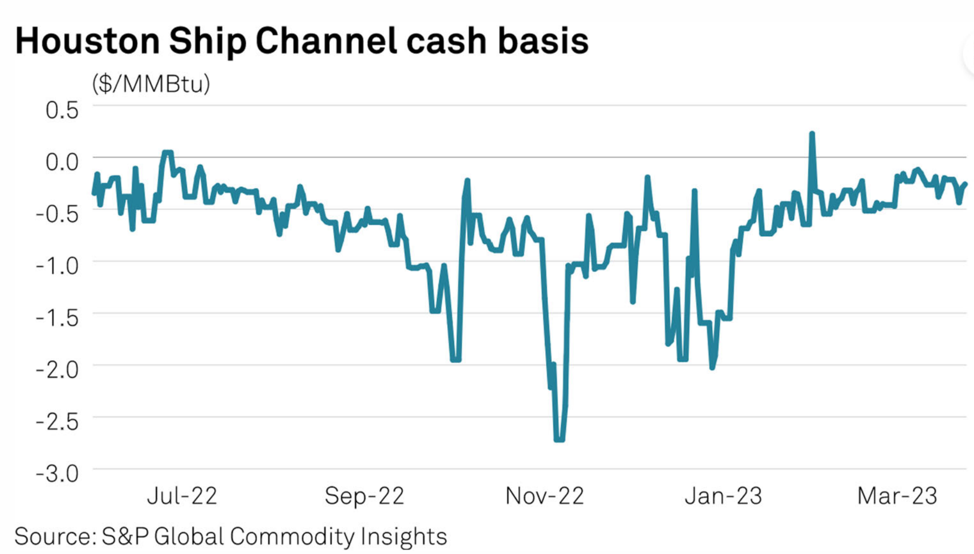
During the extended outage at Freeport, basis prices at Houston Ship Channel and Katy Hub experienced wild swings, trading on more than several occasions at discounts of $2/MMBtu or more to Henry Hub. In the months prior to the terminal's shutdown, basis prices at the two East Texas hubs only averaged about 25 cents discount to the US benchmark.



Reshuffled flows

At the same time, the effort at Freeport LNG to return to full service appears to be "skewing pipeline samples out of the Haynesville shale and creating a distorted view of natural gas supply trends," East Daley Analytics said in a recent research note.

East Daley cited pipeline flows in East Texas and northern Louisiana that appeared to trail off at the end of February from an all-time high, prompting speculation that Haynesville producers could be shutting in wells in response to lower gas prices. Instead, the analysts said they believe gas at the Carthage hub, a key trading point for Haynesville supply, was being redirected south on to intrastate pipelines to meet Freeport LNG feedgas demand, rather than being shipped east to northeastern Louisiana.

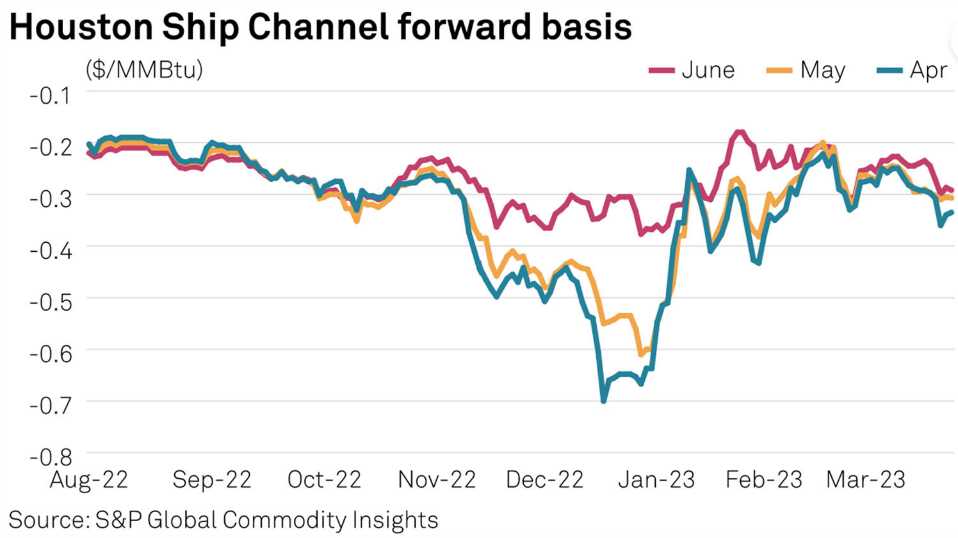


Restart timing

On Feb. 21, US regulators gave Freeport LNG a greenlight to resume production at its first two trains, followed just over two-weeks later by an authorization March 8 to begin operating its third train.

Based on earlier restart projections from Freeport, many traders may have assumed that a regulatory go-ahead would have been followed by a quick ramp-up in feedgas flows to Freeport – back to pre-outage levels of around 2 Bcf/d.

Last month, forward basis markets at Houston Ship Channel appeared to foresee that outcome. In mid-February, the East Texas hub's April and May forward contracts both strengthened to about 20 cents behind the corresponding Henry Hub forward price. As of late March, though, the forward market spread has widened with April and May now trading about 32 cents behind Henry Hub as the market takes stock of the stumbling restart at Freeport.



Global impact

Four cargoes from Freeport LNG were heard to be cancelled in March as the operator experienced valve issues on Train 1 and electrical issues on Train 2, according to market sources. Freeport declined to comment March 24.

Globally, the resumption of LNG production at Freeport is expected to be the single-largest supply addition to the international LNG market in 2023. Ramping operations underway at the facility will also help determine the overall strength of US LNG feedgas demand exiting winter. The spring shoulder season is often when US facilities take liquefaction units offline for seasonal maintenance – potentially compounding the market impact of continued weakness in feedgas demand at Freeport.

S&P Global forecasts US LNG feedgas demand will average 13.4 Bcf/d in 2023, up from 11.8 Bcf/d last year. The forecast sees LNG feedgas rising headed into winter 2023-24, peaking at 14 Bcf/d in November.

https://www.sempra.com/sempra-launches-port-arthur-lng-project

March 20, 2023

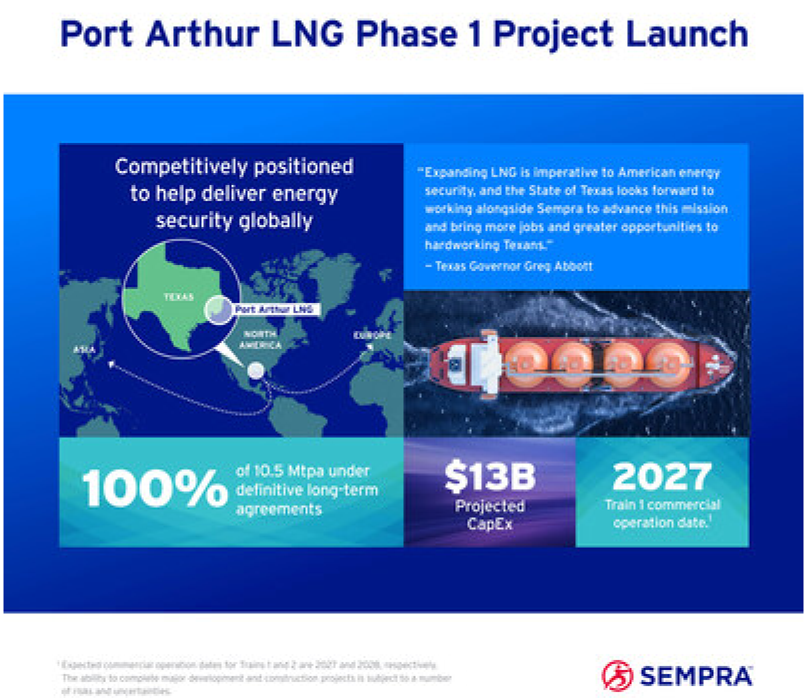
Sempra Launches Port Arthur LNG Project

Body

- **Finalizes Joint Venture with ConocoPhillips**
- **Closes Non-Recourse Project Financing**
- **Announces Equity Participation by KKR**
- **Issues Final Notice to Proceed to Bechtel**

SAN DIEGO, March 20, 2023 /PRNewswire/ -- Sempra (NYSE: SRE) (BMV: SRE) today announced that its 70%-owned subsidiary, Sempra Infrastructure Partners, LP (Sempra Infrastructure), reached a positive final investment decision (FID) for the development, construction and operation of the Port Arthur LNG Phase 1 project in Jefferson County, Texas.

Sempra Infrastructure closed its joint venture with an affiliate of ConocoPhillips (NYSE: COP), as well as announced an agreement to sell an indirect, non-controlling interest in the project to an infrastructure fund managed by KKR. Additionally, Sempra Infrastructure announced the closing of the project's $6.8 billion non-recourse debt financing and the issuance of the final notice to proceed under the project's engineering, procurement and construction agreement.



"At Sempra, we believe bold, forward-looking partnerships will be central to solving the world's energy security and decarbonization challenges," said Jeffrey W. Martin, chairman and chief executive officer of Sempra. "With strong customers, top-tier equity sponsors in ConocoPhillips and KKR and a world class contractor in Bechtel, this project has the potential to become one of America's most significant energy infrastructure investments over time,

while creating jobs and spurring continued economic growth across Texas and the Gulf Coast region."
"Sempra's selection of Port Arthur as the location for a new natural gas liquefication and export terminal is a strategic decision that will cement Texas' position as the energy capital of the world," said Texas Gov. Greg Abbott. "With a highly skilled workforce and business-friendly climate, and as a national leader in LNG exports, Texas is the prime location to expand LNG operations to unleash the United States' full economic potential in such a critical industry. Expanding LNG is imperative to American energy security, and the State of Texas looks forward to working alongside Sempra to advance this mission and bring more jobs and greater opportunities to hardworking Texans."
The Port Arthur LNG Phase 1 project is fully permitted and is designed to include two natural gas liquefaction trains, two liquefied natural gas (LNG) storage tanks and associated facilities with a nameplate capacity of approximately 13 million tonnes per annum (Mtpa). Total capital expenditures for the Port Arthur Phase 1 project are estimated at $13 billion.
The long-term contractable capacity of approximately 10.5 Mtpa is fully subscribed under binding long-term agreements with strong counterparties —ConocoPhillips, RWE Supply and Trading, PKN ORLEN S.A., INEOS and ENGIE S.A., all of which became effective upon reaching FID. Sempra Infrastructure is also actively marketing and developing the competitively positioned Port Arthur LNG Phase 2 project, which is expected to have similar offtake capacity to Phase 1.

World-Class Partnerships
Sempra and ConocoPhillips closed their joint venture whereby an affiliate of ConocoPhillips has acquired a 30% non-controlling interest in the project, is purchasing 5 Mtpa of LNG offtake from the project under a 20-year sale and purchase agreement and is managing the project's overall natural gas supply requirements. ConocoPhillips will also have certain rights to participate in future expansion projects in both equity and offtake.

"Our strategic LNG partnership with Sempra will help supply growing global demand for natural gas, a lower greenhouse gas emissions-intensity fuel expected to play a critical role in the energy transition and global energy mix going forward," said Ryan Lance, ConocoPhillips chairman and chief executive officer. "ConocoPhillips has more than 60 years of experience with LNG, and we look forward to continuing to build our LNG portfolio and expanding our role in delivering a lower-carbon future that strengthens U.S. and global energy security."
Sempra Infrastructure announced an agreement whereby KKR will acquire a 25% to 49% indirect, non-controlling interest in the Port Arthur LNG Phase 1 project. Pursuant to the agreement with KKR, Sempra Infrastructure will retain certain economic and other rights with respect to the interest being transferred while granting KKR certain minority interest protections. KKR is making the investment primarily through its Global Infrastructure Investors IV fund.

"We are pleased to invest in this critical energy infrastructure project and extend our strategic partnership with Sempra and their world-class team," said James Cunningham, Partner at KKR. "Phase 1 will create new jobs, support American economic growth and deliver reliable and cleaner energy during the global energy transition. Consistent with KKR Infrastructure's strategy of seeking stable and predictable returns for investors, our investment in Phase 1 is backed by robust cash flows through long-term contracts with high-quality counterparties."

Sempra Infrastructure is targeting 20% to 30% of indirect ownership interest in the project, subject to the closing of the KKR sale. For illustrative purposes, if Sempra Infrastructure's indirect ownership interest is at the midpoint of the referenced range, or 25%, Sempra Infrastructure would expect its share of average adjusted EBITDA after full commercial operations to be approximately $410 million annually and its equity commitment to be approximately $1.55 billion. Sempra's share of the above estimates would be equal to 70% of these amounts. The foregoing estimates exclude other potentially significant economic benefits associated with, among other items, the development of future phases and further optimization of the project.

Sempra Infrastructure has contracted with global engineering, construction and project management firm Bechtel Energy Inc. and has issued a final notice to proceed for the project. The expected commercial operation dates for Train 1 and Train 2 are 2027 and 2028, respectively.

"We're proud to partner with Sempra to deliver a world-class LNG facility. Building from mature, scalable energy technologies helps safeguard our energy supplies and promote the transition to lower-carbon energy," said Brendan Bechtel, Chairman and CEO of Bechtel. "Bechtel has a record of delivering LNG infrastructure on the U.S. Gulf Coast and bringing quality jobs and training opportunities to local communities. The 5,000 construction jobs this project creates will provide outstanding opportunities for craft professionals — growing a skilled workforce that will benefit the region for years to come."

Local Benefits

Sempra Infrastructure believes that building strong relationships and supporting the communities where its employees live and work is fundamental to how it does business. Moreover, the company focuses its community development initiatives on local priorities including education and leadership development, environmental stewardship and safety.

Since 2015, Port Arthur LNG has invested more than $40 million to support Jefferson County communities, including working with local vendors to procure materials and services for the relocation of a 3.5-mile portion of Highway 87 and on grants to more than 60 local non-profits, schools and business development groups.

The Phase 1 project is another significant opportunity to expand Sempra Infrastructure's economic impact. The project is expected to create an estimated 5,000 highly skilled jobs during construction and boost the economies in Port Arthur and Jefferson County.

"Sempra has long been an economic driver for Jefferson County here in Southeast Texas, and this new Port Arthur LNG facility will continue that trend by bringing thousands of jobs, new markets for natural gas and more energy security for our nation," Speaker of the Texas House of Representatives Dade Phelan said. "Texas House District 21 is proud of this latest development that showcases our great state's leadership in economic development, job creation and energy production."

The successful completion of the KKR sale is subject to regulatory approvals and other customary closing conditions, and the completion of construction of Port Arthur LNG Phase 1 is subject to a number of risks and uncertainties. Additional details about these transactions can be found in the current report on Form 8-K Sempra filed with the U.S. Securities and Exchange Commission on March 20, 2023, as well as in the informational slides on the Investors section of Sempra's website at sempra.com/investors.

Adjusted EBITDA (earnings before interest, taxes, depreciation and amortization) is a non-GAAP financial measure (GAAP is generally accepted accounting principles).

Citi advised Sempra on various aspects of the transaction and J.P. Morgan Securities LLC acted as advisor on the project financing.

About Sempra

Sempra is a leading North American energy infrastructure company that helps meet the daily energy needs of nearly 40 million consumers. As the owner of one of the largest energy networks on the continent, Sempra is helping to electrify and decarbonize some of the world's most significant economic markets, including California, Texas, Mexico and the LNG export market. The company is also consistently recognized as a leader in sustainable business practices and for its long-standing commitment to building a high-performance culture focused on safety and operational excellence, leadership and workforce development and diversity and inclusion. Investor's Business Daily named Sempra the top-ranked utility in the U.S. for environmental, social and governance scores and financial performance. Sempra was also included on the Dow Jones Sustainability North America Index for the 12th consecutive year. More information about Sempra is available at sempra.com and on Twitter @Sempra
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About Sempra Infrastructure

Sempra Infrastructure delivers energy for a better world. Through the combined strength of its assets in North America, the company is dedicated to enabling the delivery of cleaner energy for its customers. With a continued focus on sustainability, innovation, world-class safety, championing people, resilient operations and social responsibility, its more than 2,000 employees develop, build and operate clean power, energy networks and LNG and net-zero solutions that are expected to play a crucial role in the energy systems of the future. For more information about Sempra Infrastructure, please visit www.SempraInfrastructure.com
and Twitter

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https://calgaryherald.com/opinion/columnists/opinion-lng-is-a-hat-trick-for-canada

Opinion: LNG is a hat trick for Canada

Author of the article:
Mike Rose
Published Mar 20, 2023 • Last updated 22 hours ago • 4 minute read


Mike Rose, chairman and chief executive officer of Tourmaline Oil Corp., speaks during an interview in New York, U.S., on Thursday, March 12, 2015. Victor J. Blue/Bloomberg

Canada has a compelling opportunity to simultaneously improve the global atmosphere, materially build our overall economy, and contribute to growing First Nations prosperity. It's a hat trick if we choose to get in the game, and that game is LNG. Canada should be a world leader in transporting its low emission natural gas via LNG to the countries in the world that need it. Our allies are calling out for it, and we have all the components required to allow our country to win this challenging yet rewarding game.

Natural gas is the most energy dense by mass of the entire fossil fuel group and generates the lowest emissions when ignited, it's at the top of the fossil fuel evolutionary ladder if you like. For the record, a molecule of methane has three times the embedded energy as a molecule of hydrogen. In general, from an energy sourcing prospective, we should be migrating towards denser, lower cost, lower emission energy sources. Natural gas most certainly releases carbon when burned, it's not perfect, but that's actually the case with all the current components of the world's energy stack. Whether it's renewables, nuclear or fossil fuels, each energy source has both positive and negative attributes, be it carbon emissions, cost challenges per unit of energy, or ultimate waste disposal.

The foundation of our modern civilization has been built upon abundant and inexpensive energy. The world's energy stack continues to 'transform' between sources in an effort to systematically improve efficiency, economics, and emission profile to provide energy for our planet's growing population. Part of that transformation is a rapidly growing 'transition' to natural gas envisaged for the next several decades. No matter which forecast or outlook you use, natural gas consumption is growing materially, to as much as 35 to 40 per cent of the entire energy stack within 10 years. So the world is most certainly not transitioning off natural gas, it's just the opposite.

Canada is currently the fourth-largest producer of natural gas in the world, and we are blessed with amongst the largest gas reserves on the planet. We have a well-established gas industry with an extensive natural gas processing and country-wide transportation infrastructure already built and in place. Another advantage is that we have relatively low-cost reserves to develop, the main gas resource plays aren't particularly deep, and they tend to drill and complete quickly and easily. Although the Western Canadian Sedimentary Basin has been producing for almost 100 years, our prime natural gas resource plays, the Alberta Deep Basin and the BC/AB Montney, are actually very early in producing life, and much earlier than their US counterparts to the south. The Montney, for example, has only produced 22 TCF of an estimated 645 TCF of ultimate recoverable gas reserve (current production from the Montney is approximately 5.7 TCF per year). We're in the top of the first inning and pitching to the first batter, to use a baseball analogy to depict the remaining Montney reserve life. A 4 bcf/day LNG project, the potential size of LNG Canada, is estimated to create up to 20,000 jobs and $9-12 billion in annual export income to the Canadian economy.

There is obviously a major economic win associated with the initial pipeline and liquefaction facility construction required for LNG projects. The additional carry-on economic win from resource development however is the requirement to continually provide supply to sustain LNG volumes for the 30-plus year life of these projects. A 4.0 bcf/day LNG export terminal will require approximately 1.5 bcf/day of new supply created every year to offset declines. This, in turn, requires approximately $3.0-3.5 billion of capital investment 'back in the Basins' every year for decades – a massive repeatable economic win in terms of jobs, revenues, and taxes for the entire country.

The win from a Canadian LNG industry is just as compelling from an environmental performance and emission reduction perspective. Each bcf/day of LNG will reduce carbon emissions by approximately 15 MT/year if utilized to replace coal in electrical generation in the landed country. That same 4 bcf/day project we were considering would reduce annual emissions from the entire Canadian oil and gas industry by a full 25 per cent. If we choose to grow our Canadian LNG business to 10 bcf/day, we're looking at an opportunity for Canada to lead the world in global emissions reduction.

And this is a true net reduction for the world. The atmosphere has no borders so replacing coal with gas in China or India is a true 60 MT/year reduction for the world. The second key consideration is that our Canadian gas industry produces on average the world's lowest-emission natural gas, and our leading clean-tech industry is allowing us to get cleaner, faster than anyone else. The gas is going to be supplied to the countries that demand it; China, India and now Europe, whether Canadian methane molecules show up or not. The global atmosphere is a net loser in that case as the gas will be sourced from producing jurisdictions with a higher emission profile.

The final goal in our hat trick is scored by the opportunity to improve First Nation prosperity. The majority of First Nations in Western Canada are very supportive of oil and gas development as it's seen as an opportunity for long-term, high-quality employment and a sustained higher standard of living. Be it Indigenous-owned service companies, a growing reclamation business sector, direct employment with producers, or equity investment in pipeline projects; the First Nations' economic opportunities are myriad if we become a major global LNG player. We need to ensure this opportunity is not lost.

So, we have the resource, the people, the technology, the infrastructure, the necessary service sector, and the political stability to execute on the tremendous opportunity that LNG presents. As energy security becomes an ever-increasing priority, our allies are now asking us to develop this world-class resource. Let's get in the game, bury our hat trick, and win it all!

Mike Rose is the founder, CEO and chairman of Tourmaline, Canada's largest gas producer.

HTTPS://WWW.VITOL.COM/VITOL-2022-VOLUMES-AND-REVIEW/

GENERAL | 20.03.2023

Vitol 2022 volumes and review

News
Highlights:

- Turnover of $505bn in 2022 (2021 $279bn)
- 7.4 m b/d of crude oil and products delivered in 2022 (2021 7.6 m b/d)
- 30%+ increase across transitional energy volumes traded
- $2bn committed to identified sustainable projects

Statement from Russell Hardy, CEO:

The events of 2022 shook the world and energy markets. The invasion of Ukraine and its political ramifications resulted in severe dislocations in energy markets, thereby ensuring that energy, its availability and affordability, remained at the forefront of sociopolitical debate. As one of the largest distributors of energy, our role is to respond to supply signals and facilitate the efficient delivery of energy. In this context of higher prices and a fast-growing gas and power business, our turnover increased to $505bn. Mindful of our role in meeting the needs of our customers, we continue to focus on our strategy of investing in energy solutions for today and tomorrow.

To date, we have committed over $2bn of capital to specific sustainable business initiatives and have a pipeline of projects under review. During 2022 we agreed to acquire Polish renewable developer Vortex, which has a development pipeline of over 3 GW. This adds to our existing renewable generation capacity of 1.2 GW. We expect to invest a further $1bn through Vortex as we build out its pipeline. Alongside sustainable asset investment, we are deploying our expertise, infrastructure and market presence to encourage the adoption of sustainable technologies and circular economy solutions, from plastics recycling to e-mobility businesses. In Colombia we operate 495 electric buses and are building e-fleet solutions to deploy in other markets.

At the same time as investing in future energy solutions, policymakers have stressed the importance of energy security. This means different things in different markets. During 2022, the vulnerability of Europe's power supply became evident as maintenance in France's nuclear sector threatened power availability. The system of European interconnectivity held up, but prices reached unprecedented levels. This has to be addressed through investment; in renewables and the infrastructure required to support them but also, in the near term, investment in gas generation as a complement to the roll out of interruptible renewable power.

VPI, our UK-based power company, which owns and operates five power plants, and which continues to work on an ambitious plan to decarbonise industry in North Lincolnshire through CCUS, expanded its footprint into Ireland. Through a joint venture with leading Irish flexible generation development company, Lumcloon Energy Ltd, VPI will co-develop a new 275 MW Open Cycle Gas Turbine (OCGT) power plant in County Westmeath. The supply of LNG is critical to ensuring near term energy security in many regions. High prices during 2022 pushed a number of Asian buyers and economies out of the market and resulted in increased coal burn. We expect this tightness in LNG to continue until 2026, when significant new production capacity will come online, equivalent to 50% of supply in 2022. This new supply, which will originate in the US, Qatar and Africa, will primarily be consumed by developing Asian economies, enabling them to underpin economic growth and move away from coal.

Vitol's traded LNG volumes increased slightly to 17.6 m toe. The portfolio responded to increased demand from Europe and in Q4 European destinations accounted for 67% of Vitol's LNG volumes. Oil flows were significantly impacted by events in Ukraine and the subsequent sanctions, both voluntary and mandatory. As European buyers withdrew from the consumption of Russian origin oil, 2.4 m b/d of Russian crude exports found new buyers, predominantly in Asia, while Europe required new sources of crude. Overall, markets held up well, redirecting flows as necessary and assisted by strategic petroleum reserve releases. Bottlenecks were limited and there were no major shortages of crude, although refined product markets were tight. Vitol's crude oil volumes fell slightly to 199.5 m MT (2021: 200.5 m MT) as we exited contracts and ceased trading Russian crude in June 2022. Across the rest of the barrel, volumes remained broadly constant and the trading business continues to perform well. We expect jet volumes to recover this year in the wake of China's reopening, though structural issues in the airline and travel sector will moderate demand growth in 2023.

Longer term, Africa will continue to be a growth market as per capita oil consumption, currently 9% that of Europe, increases in line with economic development. In 2022, we acquired the public shareholding of Vivo Energy, the African downstream business we founded in 2012 and which operates the Shell and Engen brands in 23 African markets. Last month, Vivo consolidated its market-leading presence by agreeing to acquire South Africa-based Engen from Petronas. The combined group will have 3,900 service stations across 27 African countries, resulting in one of the largest energy distribution platforms in Africa.

We expect oil demand to grow until circa 2030. Road vehicles will lead the transition to electricity and cleaner fuels, such as biogas and hydrogen fuel cells, but it is essential that other sectors, such as shipping, address decarbonisation. We were pleased to lead trials in Singapore of bio-blended VLSFO and believe developments such as these will be essential to reducing emissions in this sector.

Vitol, through its portfolio company VTX, has just closed its second, US onshore upstream acquisition; this one in the Southern Delaware Basin in Texas. Together with Vencer, an existing Midland Basin producer, Vitol will be invested in US production of circa 80,000 boe/d.

During 2022 we completed a new-build, efficient refinery in Malaysia, intended to serve local bunkering and other growing product markets in the region. As with all our traditional activities we are looking to minimise their environmental impact. During 2022 our VPR refinery in Rotterdam was the first in the world to deploy innovative new systems to half NOx emissions and increase the effectiveness of its furnace, making it one of the most efficient refineries in Europe. We will continue to challenge our asset managers to optimise their environmental impact and to plan for a future in the context of the transition.

Vitol has long believed that carbon markets have a role to play in achieving Net Zero. Notwithstanding some of the issues faced by the sector, we continue to focus on generating a portfolio of high-quality credits with projects that are aligned with the UN Sustainable Development goals.

Looking forward to the rest of 2023, we expect oil demand to grow by 2 m b/d, driven primarily by the aviation sector globally and recovering demand in China. That said, energy markets remain vulnerable to both economic and geopolitical risks. The extreme volatility of energy markets during 2022 highlighted the importance of prudent physical and financial risk management; accordingly, we will continue to manage our business and financial position carefully and conservatively.

Highlights for the month	
•	Indigenous crude oil and condensate production during February 2023 was down by 4.9 % than that of February 2022 as compared to a de-growth of 1.1 % during January 2022. OIL registered a growth of 6.8 % and ONGC registered a de - growth of 4.5 % during February 2023 as compared to February 2022. PSC registered de-growth of 11.0 % during February 2023 as compared to February 2022. De-growth of 1.6 % was registered in the total crude oil and condensate production during April - February 2023 over the corresponding period of the previous year.
•	'Crude oil processed during February 2023 was 20.8 MMT, which was 2.0 % higher than February 2022 as compared to a growth of 5.1 % during January 2022. Growth of 5.9 % was registered in the total crude oil processing during April- February 2023 over the corresponding period of the previous year.
•	Crude oil imports increased by 8.5% and 9.5% during February 2023 and April-February 2023 respectively as compared to the corresponding period of the previous year. The net import bill for Oil & Gas was $9.9 billion in February 2023 compared to $10.6 billion in February 2022. In this the crude oil imports constitutes $10.3 billion, LNG imports $1.5 billion and the exports were $4.1 billion during February 2023.
•	The price of Brent Crude averaged $82.49/bbl during February 2023 as against $82.78/bbl during January 2023 and $98.19/bbl during February 2022. The Indian basket crude price averaged $82.28/bbl during February 2023 as against $80.92/bbl during January 2023 and $94.07 /bbl during February 2022.
•	Production of petroleum products saw a growth of 3.3 % during February 2023 over February 2022 as compared to a growth of 4.5 % during January 2022. Growth of 5.2 % was registered in the total POL production during April- February 2023 over the corresponding period of the previous year.
•	POL products imports increased by 9.0% and 13.3% during February 2023 and April-February 2023 respectively as compared to the corresponding period of the previous year. Increase in POL product imports during April- February 2023 were mainly due to increase in import of all products except lubes/LOBS, fuel oil (FO) and others etc.

•	Exports of POL products increased by 4.2% and decreased by 1.8% during February 2023 and April- February 2023 respectively as compared to the corresponding period of the previous year. Decrease in POL products exports during April-February 2023 were mainly due to decrease in exports of motor spirit (MS), naphtha, superior kerosene oil (SKO), high speed diesel (HSD) and petcoke/CBFS etc.
•	The consumption of petroleum products during April-Feb 2023 with a volume of 201.8 MMT reported a growth of 10.8% compared to the volume of 182.18 MMT during the same period of the previous year. This growth was led by 8.9% growth in MS, 7.5% in HSD & 43.2% in ATF consumption besides FO/LSHS and others during the period. The consumption of petroleum products during Feb 2023 recorded a growth of 5.7% with a volume of 18.5 MMT compared to the same period of the previous year.
•	Ethanol blending with Petrol was 12.0% during February 2023 and cumulative ethanol blending during December 2022-February 2023 was 11.4%.
•	Total Natural Gas Consumption (including internal consumption) for the month of February 2023 was 4848 MMSCM which was 6.7% higher than the corresponding month of the previous year. The cumulative consumption of 55544 MMSCM for the current financial year till February 2023 was lower by 5.4 % compared with the corresponding period of the previous year.
•	Gross production of natural gas for the month of February 2023 (P) was 2651 MMSCM which was higher by 1.9% compared with the corresponding month of the previous year. The cumulative gross production of natural gas of 31494 MMSCM for the current financial year till February 2023 was higher by 1.1% compared with the corresponding period of the previous year.
•	LNG import for the month of February 2023 (P) was 2253 MMSCM which was 11% higher than the corresponding month of the previous year. The cumulative import of 24769(P) MMSCM for the current financial year till Februaryr 2023 was lower by 12.8% compared with the corresponding period of the previous year.

2. Crude oil, LNG and petroleum products at a glance

	Details	Unit/ Base	2020-21	2021-22 (P)	Feb 2021-22 (P)	Feb 2022-23 (P)	April-Feb 2021-22 (P)	April-Feb 2022-23 (P)
1	Crude oil production in India#	MMT	30.5	29.7	2.3	2.2	27.2	26.7
2	Consumption of petroleum products*	MMT	194.3	204.7	17.5	18.5	182.2	201.8
3	Production of petroleum products	MMT	233.5	254.3	21.2	21.9	230.2	242.0
4	Gross natural gas production	MMSCM	28,672	34,024	2,602	2,651	31,137	31,494
5	Natural gas consumption	MMSCM	60,982	64,159	4,545	4,848	58,709	55,544
6	Imports & exports:							
	Crude oil imports	MMT	196.5	212.4	17.6	19.1	193.4	211.6
		$ Billion	62.2	120.7	11.6	10.3	105.8	146.6
	Petroleum products (POL) imports*	MMT	43.2	39.0	3.2	3.5	35.3	40.1
		$ Billion	14.8	23.7	2.0	2.1	20.9	24.6
	Gross petroleum imports (Crude + POL)	MMT	239.7	251.4	20.8	22.6	228.7	251.7
		$ Billion	77.0	144.3	13.6	12.5	126.7	171.2
	Petroleum products (POL) export	MMT	56.8	62.8	4.9	5.1	56.0	55.0
		$ Billion	21.4	44.4	4.1	4.1	37.5	53.0
	LNG imports*	MMSCM	33,198	31,028	2,030	2,253	28,390	24,769
		$ Billion	7.9	13.5	1.1	1.5	12.0	16.8
	Net oil & gas imports	$ Billion	63.5	113.4	10.6	9.9	101.2	135.1
7	Petroleum imports as percentage of India's gross imports (in value terms)	%	19.5	23.6	24.3	24.3	23.0	26.2
8	Petroleum exports as percentage of India's gross exports (in value terms)	%	7.3	10.6	11.0	12.0	9.9	13.0
9	Import dependency of crude oil (on POL consumption basis)	%	84.4	85.7	87.4	89.2	85.3	87.2

#Includes condensate; *Private direct imports are prorated for the period Jan'23 to Feb'23 for POL. LNG Imports figures from DGCIS are prorated for Jan-Feb 2023. Total may not tally due to rounding off.

3. Indigenous crude oil production (Million Metric Tonnes)								
Details	**2020-21**	**2021-22**	**Feb**			**April-Feb**		
			2021-22	**2022-23 Target***	**2022-23 (P)**	**2021-22**	**2022-23 Target***	**2022-23 (P)**
ONGC	19.1	18.5	1.4	1.6	1.4	16.9	19.3	16.9
Oil India Limited (OIL)	2.9	3.0	0.2	0.3	0.2	2.7	3.1	2.9
Private / Joint Ventures (JVs)	7.1	7.0	0.5	0.6	0.4	6.4	6.6	5.7
Total Crude Oil	**29.1**	**28.4**	**2.2**	**2.5**	**2.1**	**26.0**	**28.9**	**25.5**
ONGC condensate	1.1	0.9	0.07	0.0	0.1	0.9	0.0	1.0
PSC condensate	0.3	0.30	0.02	0.0	0.03	0.28	0.0	0.28
Total condensate	**1.4**	**1.2**	**0.09**	**0.0**	**0.1**	**1.1**	**0.0**	**1.2**
Total (Crude + Condensate) (MMT)	**30.5**	**29.7**	**2.3**	**2.5**	**2.2**	**27.2**	**28.9**	**26.7**
Total (Crude + Condensate) (Million Bbl/Day)	0.61	0.60	0.59	0.65	0.57	0.60	0.64	0.59

*Provisional targets inclusive of condensate.

4. Domestic and overseas oil & gas production (by Indian Companies)						
Details	**2020-21**	**2021-22 (P)**	**Feb**		**April-Feb**	
			2021-22 (P)	**2022-23 (P)**	**2021-22 (P)**	**2022-23 (P)**
Total domestic production (MMTOE)	59.2	63.7	4.9	4.8	58.3	58.2
Overseas production (MMTOE)	21.9	21.8	1.6	1.4	20.0	17.1

Source: ONGC Videsh, GAIL, OIL , IOCL, HPCL & BPRL

5. High Sulphur (HS) & Low Sulphur (LS) crude oil processing (MMT)							
Details		**2020-21**	**2021-22**	**Feb**		**April-Feb**	
				2021-22	**2022-23 (P)**	**2021-22**	**2022-23 (P)**
1	High Sulphur crude	161.4	185.0	15.9	16.7	167.7	179.9
2	Low Sulphur crude	60.3	56.7	4.6	4.2	51.6	52.3
Total crude processed (MMT)		**221.8**	**241.7**	**20.4**	**20.8**	**219.4**	**232.2**
Total crude processed (Million Bbl/Day)		4.45	4.85	5.35	5.46	4.81	5.10
Percentage share of HS crude in total crude oil processing		**72.8%**	**76.6%**	**77.7%**	**79.9%**	**76.5%**	**77.5%**

6. Quantity and value of crude oil imports

Year	Quantity (MMT)	$ Million	Rs. Crore
2020-21	196.5	62,248	4,59,779
2021-22 (P)	212.4	120,675	9,01,262
April-Feb 2022-23(P)	211.6	146,632	11,70,731

7. Self-sufficiency in petroleum products (Million Metric Tonnes)

Particulars		2020-21	2021-22 (P)	Feb		April-Feb	
				2021-22 (P)	2022-23 (P)	2021-22 (P)	2022-23 (P)
1	Indigenous crude oil processing	28.0	27.0	2.1	1.9	24.8	24.3
2	Products from indigenous crude (93.3% of crude oil processed)	26.1	25.2	1.9	1.8	23.1	22.6
3	Products from fractionators (Including LPG and Gas)	4.2	4.1	0.3	0.2	3.7	3.2
4	Total production from indigenous crude & condensate **(2 + 3)**	30.3	29.3	2.2	2.0	26.8	25.8
5	Total domestic consumption	194.3	204.7	17.5	18.5	182.2	201.8
% Self-sufficiency (4 / 5)		**15.6%**	**14.3%**	**12.6%**	**10.8%**	**14.7%**	**12.8%**

8. Refineries: Installed capacity and crude oil processing (MMTPA / MMT)

Sl. no.	Refinery	Installed capacity (01.01.2022) MMTPA	Crude oil processing (MMT)							
			2020-21	2021-22	Feb			April-Feb		
					2021-22	2022-23 (Target)	2022-23 (P)	2021-22	2022-23 (Target)	2022-23 (P)
1	Barauni (1964)	6.0	5.5	5.6	0.5	0.5	0.5	5.0	5.9	6.2
2	Koyali (1965)	13.7	11.6	13.5	1.2	1.2	1.2	12.1	13.1	14.2
3	Haldia (1975)	8.0	6.8	7.3	0.6	0.5	0.7	6.6	7.4	7.8
4	Mathura (1982)	8.0	8.9	9.1	0.8	0.6	0.7	8.2	8.6	8.7
5	Panipat (1998)	15.0	13.2	14.8	1.1	1.2	1.2	13.6	13.6	12.5
6	Guwahati (1962)	1.0	0.8	0.7	0.08	0.1	0.1	0.64	1.0	1.0
7	Digboi (1901)	0.65	0.6	0.7	0.05	0.05	0.06	0.6	0.6	0.7
8	Bongaigaon(1979)	2.70	2.5	2.6	0.2	0.2	0.2	2.4	2.4	2.5
9	Paradip (2016)	15.0	12.5	13.2	1.2	1.2	1.2	11.8	12.6	12.2
	IOCL-TOTAL	**70.1**	**62.4**	**67.7**	**5.8**	**5.6**	**5.9**	**61.0**	**65.2**	**65.7**
10	Manali (1969)	10.5	8.2	9.0	0.9	0.8	0.9	8.0	9.8	10.3
11	CBR (1993)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CPCL-TOTAL	**10.5**	**8.2**	**9.0**	**0.9**	**0.8**	**0.9**	**8.0**	**9.8**	**10.3**
12	Mumbai (1955)	12.0	12.9	14.4	1.2	1.1	1.3	13.2	12.7	13.2
13	Kochi (1966)	15.5	13.3	15.4	1.4	1.3	1.4	13.9	14.1	14.5
14	Bina (2011)	7.8	6.2	7.4	0.6	0.6	0.7	6.7	7.1	7.1
	BPCL-TOTAL	**35.3**	**32.4**	**37.2**	**3.2**	**3.0**	**3.4**	**33.8**	**33.9**	**34.8**
15	Numaligarh (1999)	3.0	2.7	2.6	0.2	0.2	0.2	2.4	2.8	2.9

Sl. no.	Refinery	Installed capacity (1.01.2022) (MMTPA)	Crude oil processing (MMT)							
			2020-21	2021-22	Feb			April-Feb		
					2021-22	2022-23 (Target)	2022-23 (P)	2021-22	2022-23 (Target)	2022-23 (P)
16	Tatipaka (2001)	0.066	0.081	0.075	0.006	0.004	0.006	0.069	0.059	0.068
17	MRPL-Mangalore (1996)	15.0	11.5	14.9	1.4	1.3	1.4	13.4	15.5	15.6
	ONGC-TOTAL	**15.1**	**11.6**	**14.9**	**1.4**	**1.3**	**1.4**	**13.4**	**15.6**	**15.7**
18	Mumbai (1954)	9.5	7.4	5.6	0.7	0.7	0.8	4.8	7.7	8.9
19	Visakh (1957)	8.3	9.1	8.4	0.8	0.7	0.7	7.6	8.3	8.4
20	HMEL-Bathinda (2012)	11.3	10.1	13.0	1.0	0.9	1.0	11.9	10.5	11.6
	HPCL- TOTAL	**29.1**	**26.5**	**27.0**	**2.5**	**2.3**	**2.6**	**24.4**	**26.5**	**29.0**
21	RIL-Jamnagar (DTA) (1999)	33.0	34.1	34.8	2.8	2.8	2.6	31.7	31.7	31.6
22	RIL-Jamnagar (SEZ) (2008)	35.2	26.8	28.3	2.0	2.0	2.3	26.2	26.2	25.3
23	NEL-Vadinar (2006)	20.0	17.1	20.2	1.6	1.6	1.6	18.5	18.5	17.0
All India (MMT)		**251.2**	**221.8**	**241.7**	**20.4**	**19.6**	**20.8**	**219.4**	**230.2**	**232.2**
All India (Million Bbl/Day)		**5.02**	**4.45**	**4.85**	**5.35**	**5.12**	**5.46**	**4.81**	**5.05**	**5.10**

Note: Provisional Targets; Some sub-totals/ totals may not add up due to rounding off at individual levels.

9. Major crude oil and product pipeline network (as on 01.03.2023)

Details		ONGC	OIL	Cairn	HMEL	IOCL	BPCL	HPCL	Others*	Total
Crude Oil	Length (KM)	1,284	1,193	688	1,017	5,301	937			**10,420**
	Cap (MMTPA)	60.6	9.0	10.7	11.3	48.6	7.8			**147.9**
Products	Length (KM)		654			11,214	2,596	4,424	2,386	**21,274**
	Cap (MMTPA)		1.7			59.4	23.0	36.3	9.4	**129.8**

*Others include GAIL and Petronet India. HPCL and BPCL lubes pipeline included in products pipeline data

11. Production and consumption of petroleum products (Million Metric Tonnes)

Products	2020-21		2021-22 (P)		Feb 2022		Feb 2023 (P)		Apr-Feb 2022		Apr-Feb 2023 (P)	
	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons	Prod	Cons
LPG	12.1	27.6	12.2	28.3	1.0	2.4	1.0	2.4	11.1	25.8	11.7	26.1
MS	35.8	28.0	40.2	30.8	3.3	2.5	3.5	2.8	36.4	27.9	38.8	31.9
NAPHTHA	19.4	14.1	20.0	14.3	1.7	1.1	1.4	1.1	18.2	12.1	15.5	11.0
ATF	7.1	3.7	10.3	5.0	0.9	0.4	1.3	0.6	9.3	4.5	13.6	6.7
SKO	2.4	1.8	1.9	1.5	0.2	0.1	0.1	0.0	1.8	1.4	0.8	0.5
HSD	100.4	72.7	107.2	76.7	8.8	6.5	9.3	7.0	96.7	69.0	103.5	78.1
LDO	0.7	0.9	0.8	1.0	0.08	0.08	0.05	0.06	0.7	0.9	0.6	0.6
LUBES	1.1	4.1	1.2	4.6	0.1	0.4	0.1	0.3	1.1	4.0	1.2	3.4
FO/LSHS	7.4	5.6	8.9	6.3	0.7	0.5	0.8	0.6	8.1	5.7	9.6	6.4
BITUMEN	4.9	7.5	5.1	7.9	0.6	0.9	0.4	0.8	4.5	6.9	4.3	6.9
PET COKE	12.0	15.6	15.5	15.8	1.3	1.5	1.2	1.5	14.0	12.9	14.0	16.4
OTHERS	30.2	12.8	30.9	12.5	2.5	1.0	2.5	1.3	28.3	11.2	28.5	13.9
ALL INDIA	**233.5**	**194.3**	**254.3**	**204.7**	**21.2**	**17.5**	**21.9**	**18.5**	**230.2**	**182.2**	**242.0**	**201.8**
Growth (%)	**-11.0%**	**-8.9%**	**8.9%**	**5.4%**	**3.7%**	**5.0%**	**3.3%**	**5.7%**	**9.3%**	**3.7%**	**5.2%**	**10.8%**

Note: Prod - Production; Cons - Consumption

15. LPG consumption (Thousand Metric Tonne)

LPG category	2020-21	2021-22	Feb			April-Feb		
			2021-22	2022-23 (P)	Growth (%)	2021-22	2022-23 (P)	Growth (%)
1. PSU Sales :								
LPG-Packed Domestic	25,128.1	25,501.6	2,134.8	2,083.9	-2.4%	23,286.4	23,200.3	-0.4%
LPG-Packed Non-Domestic	1,886.0	2,238.8	213.6	253.0	18.4%	2,032.2	2,413.5	18.8%
LPG-Bulk	361.9	390.9	34.5	46.1	33.7%	351.4	384.1	9.3%
Auto LPG	118.4	122.0	10.5	8.1	-22.5%	111.1	98.9	-11.0%
Sub-Total (PSU Sales)	27,494.3	28,253.3	**2,393.4**	**2,391.2**	**-0.1%**	**25,781.1**	**26,096.8**	**1.2%**
2. Direct Private Imports*	64.2	0.1	0.00	0.0	995.6%	0.1	0.1	-7.8%
Total (1+2)	27,558.4	28,253.4	**2,393.4**	**2,391.2**	**-0.1%**	**25,781.1**	**26,096.8**	**1.2%**

*Jan'23 -Feb'23 DGCIS data is prorated

16. LPG marketing at a glance

Particulars (As on 1st of April)	Unit	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	1.03.23 (P)
LPG Active Domestic Customers	(Lakh)					1486	1663	1988	2243	2654	2787	2895	3053	3136
	Growth						11.9%	19.6%	12.8%	18.3%	5.0%	3.9%	5.5%	2.9%
LPG Coverage (Estimated)	(Percent)					56.2	61.9	72.8	80.9	94.3	97.5	99.8	-	-
	Growth						10.1%	17.6%	11.1%	16.5%	3.4%	2.3%	-	-
PMUY Beneficiaries	(Lakh)							200	356	719	802	800.4	899.0	958.7
	Growth								77.7%	101.9%	11.5%	-0.2%	12.2%	6.6%
LPG Distributors	(No.)	10541	11489	12610	13896	15930	17916	18786	20146	23737	24670	25083	25269	25363
	Growth	8.8%	9.0%	9.8%	10.2%	14.6%	12.5%	4.9%	7.2%	17.8%	3.9%	1.7%	0.7%	0.6%
Auto LPG Dispensing Stations	(No.)	604	652	667	678	681	676	675	672	661	657	651	601	526
	Growth	12.7%	7.9%	2.3%	1.6%	0.4%	-0.7%	-0.1%	-0.4%	-1.6%	-0.6%	-0.9%	-8.5%	-12.3%
Bottling Plants	(No.)	183	184	185	187	187	188	189	190	192	196	200	202	206
	Growth	0.5%	0.5%	0.5%	1.1%	0.0%	0.5%	0.5%	0.5%	1.1%	2.1%	2.0%	1.0%	3.5%

Source: PSU OMCs (IOCL,BPCL and HPCL)

1.Growth rates as on 01.03.2023 are with respect to figs as on 01.03.2022. Growth rates as on 1 April of any year are with respect to figs as on 1 April of previous year.

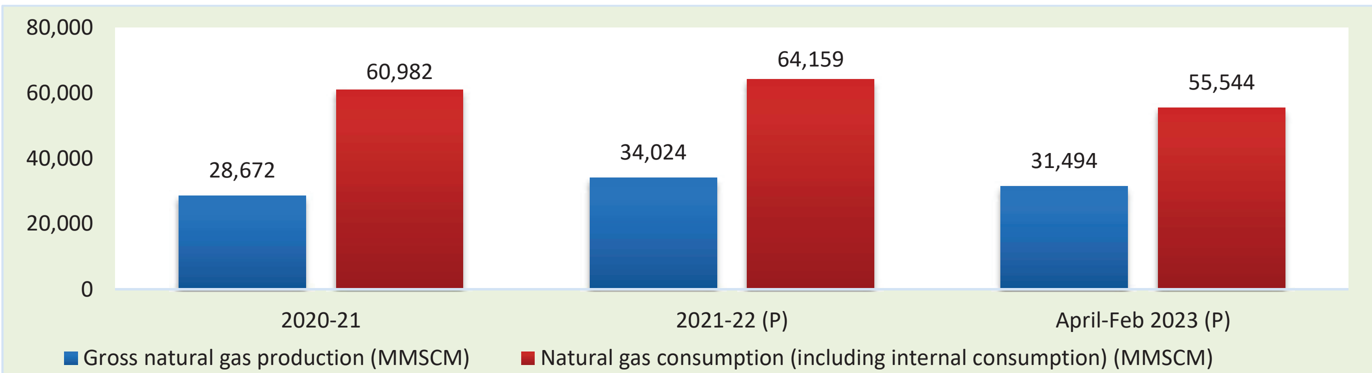
2. The LPG coverage is calculated by PSU OMCs based upon the active LPG domestic connections and the estimated number of households. The number of households has been projected by PSU OMCs based on 2011 census data. Factors like increasing nuclearization of families, migration of individuals/ families due to urbanization and reduction in average size of households etc. impact the growth of number of households. Due to these factors, the estimated no. of households through projection of 2011 census data may slightly differ from the actual no. of households in a State/UT. Further, this methodology does not include PNG (domestic) connections.

18. Natural gas at a glance

(MMSCM)

Details	2020-21 (P)	2021-22 (P)	Feb			April-Feb		
			2021-22 (P)	2022-23 (Target)	2022-23 (P)	2021-22 (P)	2022-23 (Target)	2022-23 (P)
(a) Gross production	28,672	34,024	2,602	2,989	2,651	31,137	33,409	31,494
- ONGC	21,872	20,629	1,582	1,696	1,512	18,873	19,691	18,273
- Oil India Limited (OIL)	2,480	2,893	219	253	233	2,642	2,961	2,780
- Private / Joint Ventures (JVs)	4,321	10,502	801	1,040	907	9,622	10,756	10,441
(b) Net production (excluding flare gas and loss)	27,784	33,131	2,515		2,595	30,319		30,775
(c) LNG import#	33,198	31,028	2,030		2,253	28,390		24,769
(d) Total consumption including internal consumption (b+c)	60,982	64,159	4,545		4,848	58,709		55,544
(e) Total consumption **(in BCM)**	61.0	64.2	4.5		4.8	58.7		55.5
(f) Import dependency based on consumption (%), {c/d*100}	54.4	48.4	44.7		46.5	48.4		44.6

Jan - Feb 2023 DGCIS data prorated.



19. Coal Bed Methane (CBM) gas development in India

Prognosticated CBM resources		91.8	TCF
Established CBM resources		10.4	TCF
CBM Resources (33 Blocks)		62.8	TCF
Total available coal bearing areas (India)		32760	Sq. KM
Total available coal bearing areas with MoPNG/DGH		17652	Sq. KM
Area awarded		20460	Sq. KM
Blocks awarded*		36	Nos.
Exploration initiated (Area considered if any boreholes were drilled in the awarded block)		10670***	Sq. KM
Production of CBM gas	April-Feb 2023 (P)	617.68	MMSCM
Production of CBM gas	Feb 2023 (P)	50.27	MMSCM

*ST CBM Block awarded & relinquished twice- in CBM Round II and Round IV -Area considered if any boreholes were drilled in the awarded block. **MoPNG awarded 04 new CBM Blocks (Area 3862 sq. km) under Special CBM Bid Round 2021 in September 2022. ***Area considered if any boreholes were drilled in the awarded block.

19a. Status of Compressed Bio Gas (CBG) projects under SATAT (as on 01.03.2023) (Provisional)

Particulars	Units	IOCL	HPCL	BPCL	GAIL	IGL	Total
LOIs issued	No. of plants	3084	474	318	289	50	**4215**
Expected CBG production against LOI issued	Tons per day	22396	2576	1412	1645	201	**28230**
No. of CBG plants commissioned/ Sale initiated	No. of plants	20	4	2$	9	3	**38**
Start of CBG sale from retail outlet(s)	Nos.	40	23*	41**	1		**105**
Injection/Supply of CBG in CGD network	GA Nos.	-	-	-	13#	2	**15**
Total Sale of CBG (since Sep'2019)	Tons	10498	1657*	2322**			**14,477**
Total Sale of CBG by GAIL under synchronization scheme	Tons				4446##		**4,446**

Total no. of GA where supply of CBG initiated is 13. ## Sale of CBG by GAIL includes sales through its own channels as well as through other CGDs for CBG sourced under synchronization scheme from OMCs & IGL's LoI holders. *2 HPCL Retail Outlets sourcing CBG from HPCL LOI holder plants, 21 HPCL Retail Outlets sourcing CBG from other than HPCL LOI holder plants. ** BPCL initiated CBG sales from 41 ROS. Out of 41 ROS, for one RO BPCL is sourcing CBG from its own LOI holder in other ROs CBG is being sourced from other OMC's LOI. $ Total No. of CBG and Bio gas plants commissioned is 8.

20. Common Carrier Natural Gas pipeline network as on 31.12.2022

Nature of pipeline		GAIL	GSPL	PIL	IOCL	AGCL	RGPL	GGL	DFPCL	ONGC	GIGL	GITL	Others*	Total
Operational	Length	9,582	2,695	1,479	143	107	304	73	42	24				**14,449**
	Capacity	167.2	43.0	85.0	20.0	2.4	3.5	5.1	0.7	6.0				-
Partially commissioned#	Length	4,778			282						1,255	365		**6,680**
	Capacity				-						-	-		-
Total operational length		**14,360**	**2,695**	**1,479**	**425**	**107**	**304**	**73**	**42**	**24**	**1,255**	**365**	**0**	**21,129**
Under construction	Length	5,095	100		1,149						1,077	1,666	2,915	**12,002**
	Capacity	-	3.0		-						-	-	-	-
Total length		**19,455**	**2,795**	**1,479**	**1,574**	**107**	**304**	**73**	**42**	**24**	**2,332**	**2,031**	**2,915**	**33,131**

Source: PNGRB; Length in KMs ; Authorized Capacity in MMSCMD; *Others-APGDC, HEPL, IGGL, IMC, Consortium of H-Energy. Total authorized Natural Gas pipelines including Tie-in connectivity, dedicated & STPL is 35335 Kms (P)

21. Existing LNG terminals

Location	Promoters	Capacity as on 01.03.2023	% Capacity utilisation (April-Jan 2023)
Dahej	Petronet LNG Ltd (PLL)	17.5 MMTPA	78.2
Hazira	Shell Energy India Pvt. Ltd.	5.2 MMTPA	37.5
Dabhol	Konkan LNG Limited	*5 MMTPA	34.3
Kochi	Petronet LNG Ltd (PLL)	5 MMTPA	18.3
Ennore	Indian Oil LNG Pvt Ltd	5 MMTPA	13.1
Mundra	GSPC LNG Limited	5 MMTPA	17.1
Total Capacity		**42.7 MMTPA**	

* To increase to 5 MMTPA with breakwater. Only HP stream of capacity of 2.9 MMTPA is commissioned

22. Status of PNG connections and CNG stations across India (Nos.), as on 31.01.2023(P)

State/UT (State/UTs are clubbed based on the GAs authorised by PNGRB)	CNG Stations	PNG connections		
		Domestic	Commercial	Industrial
Andhra Pradesh	157	243,851	416	32
Andhra Pradesh, Karnataka & Tamil Nadu	34	170	0	4
Assam	2	48,652	1,328	439
Bihar	74	87,342	64	3
Bihar & Jharkhand	1	6,239	0	0
Chandigarh (UT), Haryana, Punjab & Himachal Pradesh	25	25,006	114	22
Dadra & Nagar Haveli (UT)	7	10,628	56	54
Daman & Diu (UT)	4	5,134	47	43
Daman and Diu & Gujarat	14	1,722	3	0
Goa	12	10,557	15	29
Gujarat	970	2,917,845	22,111	5,735
Haryana	309	299,119	793	1,551
Haryana & Himachal Pradesh	9	0	0	0
Haryana & Punjab	18	0	0	0
Himachal Pradesh	7	4,614	4	0
Jharkhand	68	99,613	4	0
Karnataka	254	378,228	497	283
Kerala	100	35,932	19	14
Kerala & Puducherry	9	232	0	0
Madhya Pradesh	199	195,988	321	412
Madhya Pradesh and Chhattisgrah	5	0	0	0
Madhya Pradesh and Rajasthan	25	223	0	0
Madhya Pradesh and Uttar Pradesh	16	0	0	2
Maharashtra	650	2,724,602	4,593	835
Maharashtra & Gujarat	58	131,181	4	13
National Capital Territory of Delhi (UT)	471	1,362,054	3,438	1,786
Odisha	46	77,965	5	0
Puducherry	1	0	0	0
Puducherry & Tamil Nadu	8	161	0	0
Punjab	185	62,844	309	230
Rajasthan	211	183,845	72	231
Tamil Nadu	164	49	0	6
Telangana	142	187,658	75	92
Telangana and Karnataka	1	0	0	0
Tripura	18	58,628	506	62
Uttar Pradesh	715	1,312,753	2,144	2,555
Uttar Pradesh & Rajasthan	40	18,958	37	340
Uttar Pradesh and Uttrakhand	16	6,263	0	0
Uttrakhand	28	64,508	56	81
West Bengal	45	0	0	0
Total	**5,118**	**10,562,564**	**37,031**	**14,854**

Source: PNGRB

Note: 1. All the GAs where PNG connections/CNG Stations have been established are considered as Operational, 2. Under normal conditions. Operation of any particular GA commences within around one year of authorization. 3. State/UTs wherever clubbed are based on the GAs authorised by PNGRB.

23. Domestic natural gas price and gas price ceiling (GCV basis)

Period	Domestic Natural Gas price in US$/MMBTU	Gas price ceiling in US$/MMBTU
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.50	5.30
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.30
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43
April 2020 - September 2020	2.39	5.61
October 2020 - March 2021	1.79	4.06
April 2021 - September 2021	1.79	3.62
October 2021 - March 2022	2.90	6.13
April 2022 - September 2022	6.10	9.92
October 2022 - March 2023	8.57	12.46

24. CNG/PNG prices

City	CNG (Rs/Kg)	PNG (Rs/SCM)	Source
Delhi	79.56	53.59	IGL website (17.03.2023)
Mumbai	87.00	54.00	MGL website (17.03.2023)

Indian Natural Gas Spot Price for Physical Delivery

IGX Price Index Month	Avg. Price		Volume (MMSCM)	Source
	INR/MMBtu	$/MMBtu		
Feb 2022	1419	17.18	30.07	As per IGX website: www.igxindia.com

*Prices are weighted average prices |$1=INR 82.60| 1 MMBtu=25.2 SCM (Data Excluding Ceiling Price Gas) https://ieefa.org/european-lng-tracker

European LNG Tracker

IEEFA's European LNG Tracker is a publicly available interactive data set to visualize Europe's LNG buildout, including LNG flows to and through Europe. Unless stated otherwise, the charts were built using data available as of 31 December 2022. The data set is built by compiling data from a range of sources, including S&P Global Commodity Insights, GIE, and IEEFA analysis.

This page will be updated quarterly.

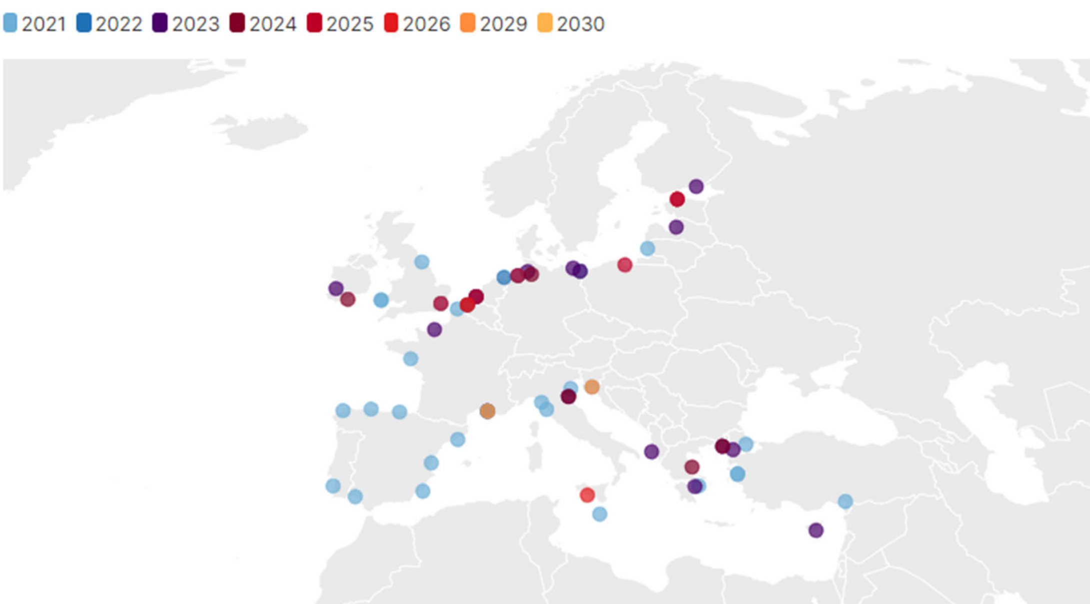
Last Updated: 22 March 2023

Existing and Planned Infrastructure

LNG regasification terminals in Europe

When are projects expected to start operating?

Click on the dots to find out more about the terminals



Source: GIE, IEEFA
Last updated: 22 March 2023

In the wake of Russia's invasion of Ukraine, countries in Europe* are betting on efficiency measures and increased LNG imports from non-Russian sources to help cut the continent's dependence on Russian gas by at least 155 billion cubic meters (bcm) before 2030.

Additional LNG volumes will be handled via Europe's large LNG infrastructure network, which consists of 31 operational LNG import terminals, one that has been mothballed, 32 LNG import terminal projects that are currently under construction or in the planning stage at the end of 2022.

After the start of the war, several countries announced new LNG terminal projects or expansions to cut reliance on Russian pipeline gas.

Country	Projects announced after 24 February 2022
Germany	3 onshore LNG terminal projects and 6 Floating Storage Regasification Units (FSRU) projects accelerated
Italy	2 FSRU projects currently under development by Snam, in addition to other potential new onshore terminals and expansion of capacity at existing terminals
Finland and Estonia	Joint project between the two Governments to develop rapidly an FSRU project and potential development of the Paldiski LNG terminal project in Estonia
France	1 FSRU project
Netherlands	1 FSRU project
Greece	2 FSRU projects
Croatia	The Croatian government decided to expand the capacity of the liquified natural gas (LNG) terminal on the island of Krk to more than 6.1 bcm per year, from the current 2.6 bcm

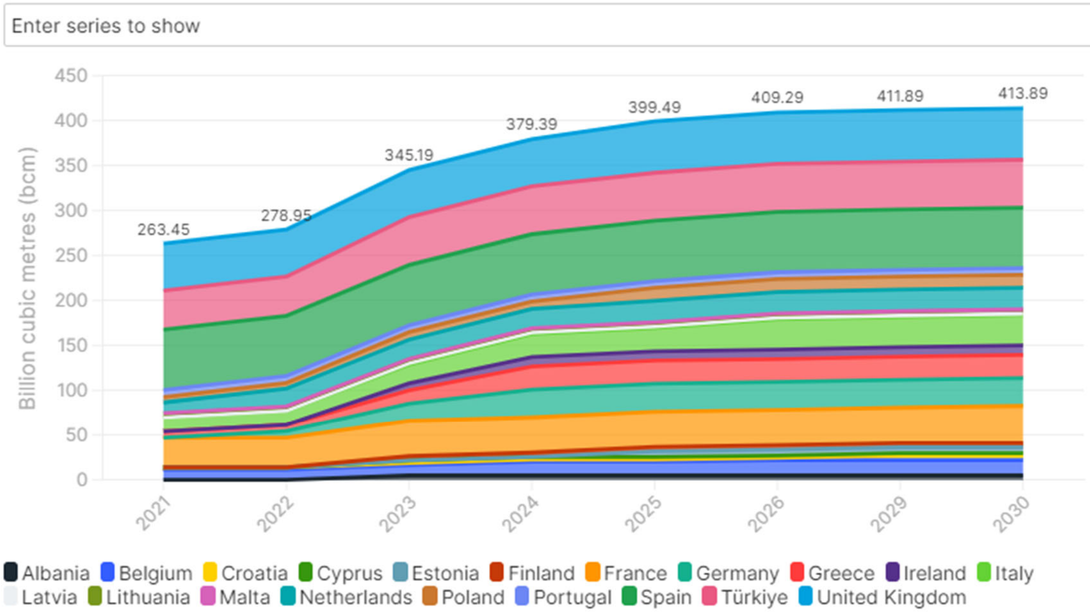
Last updated: 22 March 2023

** For the purpose of this project, the term "Europe" refers to EU Member States, the UK, Albania, Norway, and Türkiye.*

Planned Buildout of LNG Terminals to 2030

Planned buildout of Europe's LNG capacity

2021-2030



Source: GIE, IEEFA
Last updated: 22 March 2023

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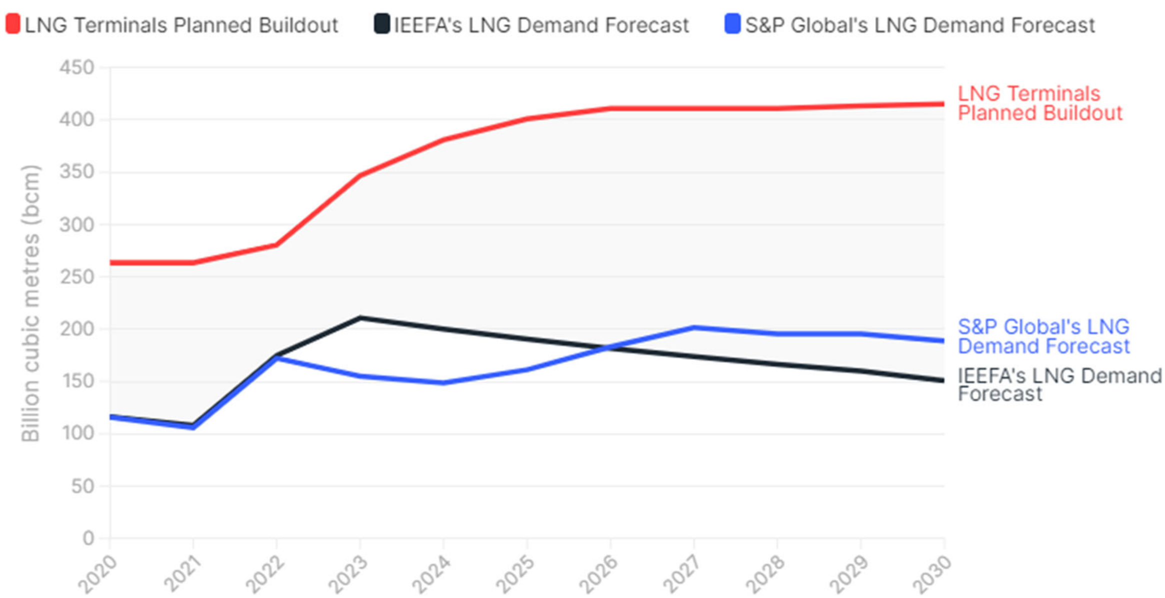
Regasification Capacity and LNG Demand Outlook

Planned terminals buildout and LNG demand forecast

2020-2030



Source: S&P Global Commodity Insights, GIE, IEEFA • Operational LNG terminals from 2021 onwards include the mothballed Spanish LNG terminal El Musel (built but not operational)
Last updated: 22 March 2023

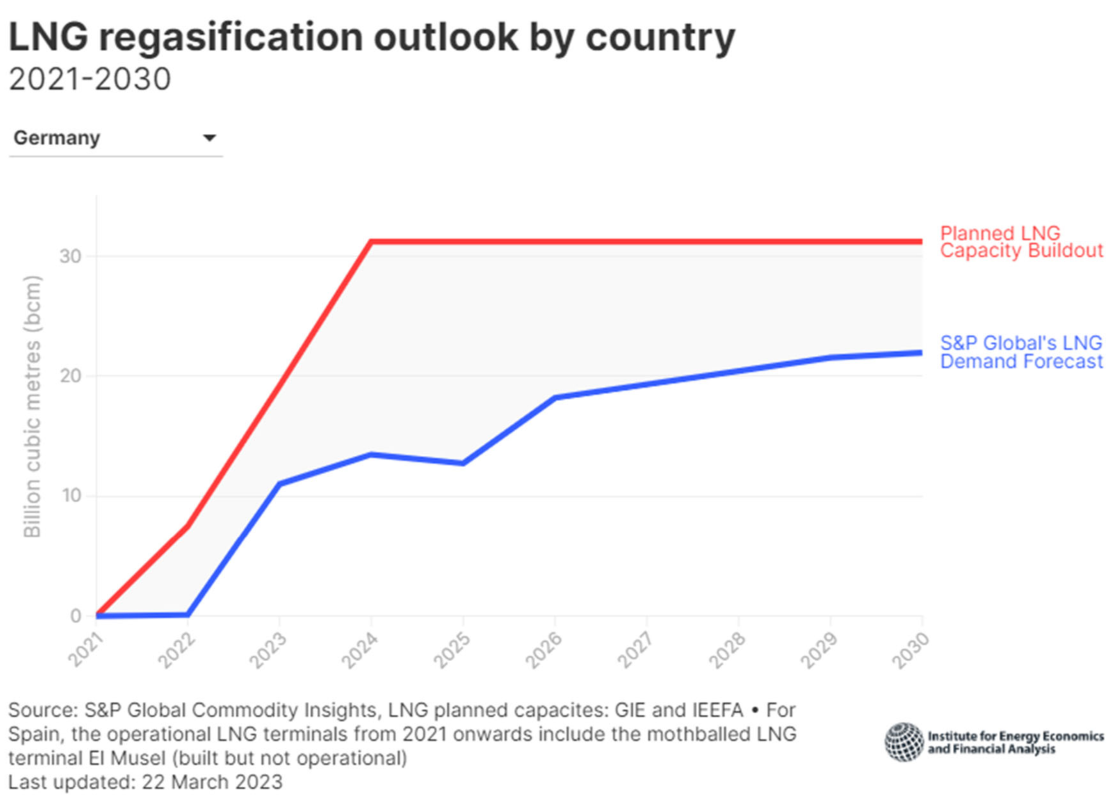
Institute for Energy Economics and Financial Analysis

The reduction on the volumes of Russian piped gas has had parallel and opposite effects. On one side, countries have felt the need to build more LNG regasification terminals to import gas from other sources to guarantee a secure source of energy. But on the other hand, the crisis has also shown Europe's great dependency on fossil fuels and has encouraged the development of more renewable energy projects, as well as the implementation of energy efficiency methods and demand mechanisms to reduce gas consumption.

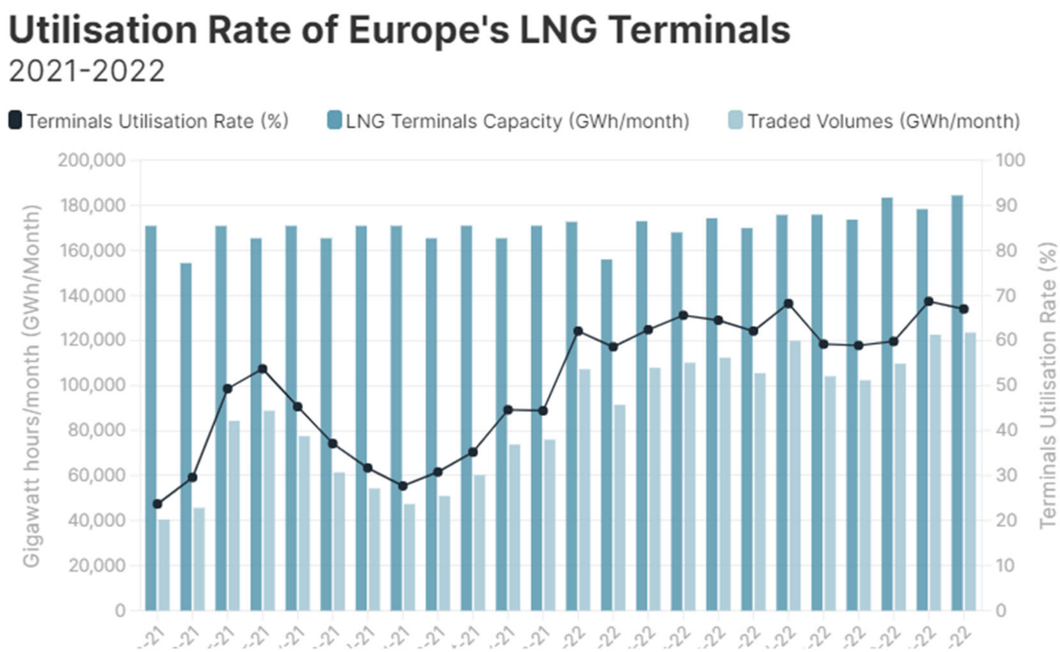
There’s a big discrepancy between the forecasted LNG demand in Europe and the new regasification capacity being built and planned. While the outlook of regasification capacity is growing, the forecasted demand remains steady.

IEEFA’s analysis and calculations forecast a 33 bcm (19%) increase in LNG demand in 2023. However, demand is expected to fall by 5% in 2024 and markedly reduce thereafter with gas demand in EU countries expected to drop at least 40% to 45% from 2019 values after implementing the measures outlined in the REPowerEU plan.

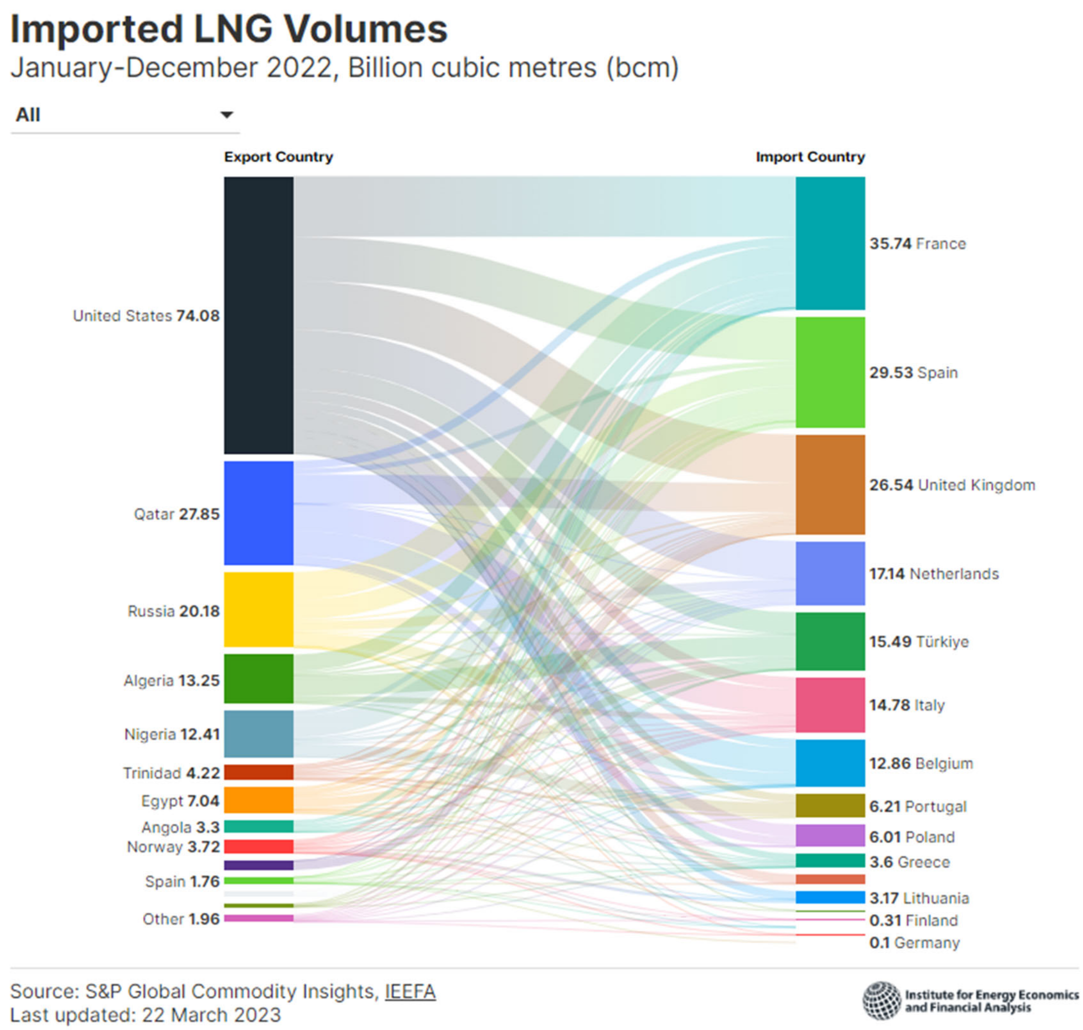
LNG Outlook by Country



LNG Terminals Utilisation Rate



LNG Traded Volumes



In 2022, LNG imports into Europe increased 60% from the previous year.

European LNG imports peaked in December 2022 with 18.5 bcm, followed by 16.2 bcm in January 2022. The largest volume of LNG imports in 2021 occurred in March with 12.7 bcm.

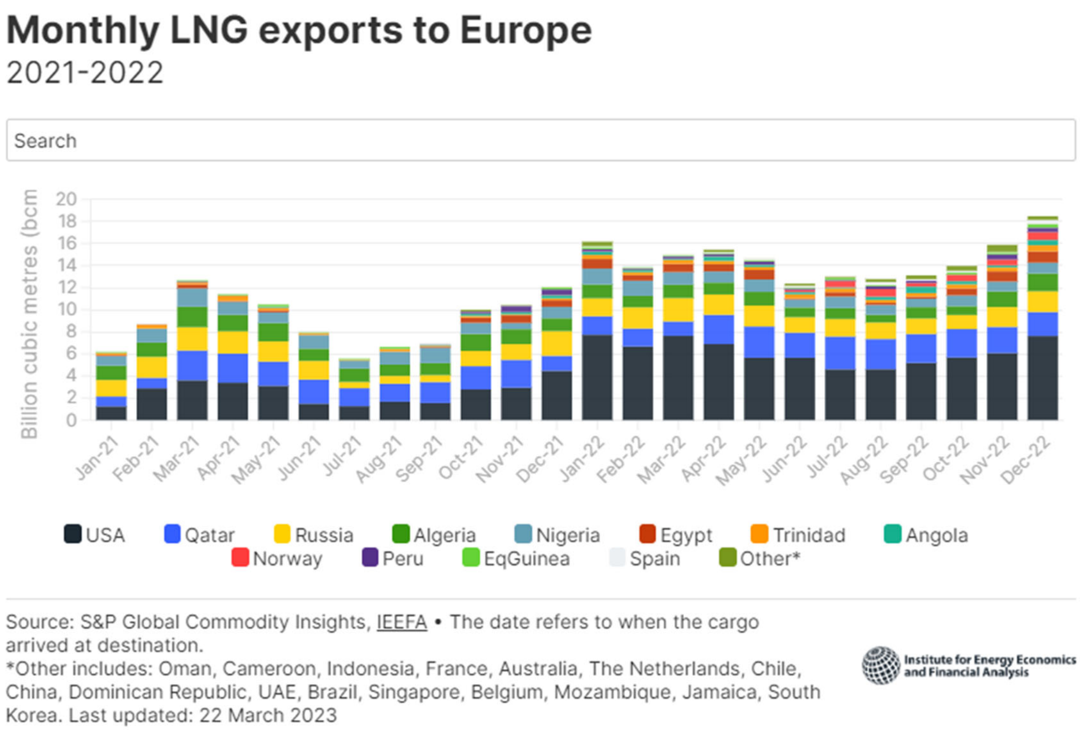
In the fourth quarters of both 2021 and 2022, LNG imports peaked; the third quarter had the lowest values.

In 2021, the largest importers of LNG were Spain (20.6 bcm), France (18.2 bcm), United Kingdom (15.5 bcm) and Türkiye (14.3 bcm).

In 2022, France (35.7 bcm), Spain (29.5 bcm), and the United Kingdom (26.5 bcm) were the largest importers of LNG, followed by the Netherlands (17.1bcm), Türkiye (15.5 bcm), Italy (14.8 bcm), and Belgium (12.9 bcm).

Belgium had the biggest increase on LNG imports in 2022 compared with 2021 (136%), followed by France (96%), the Netherlands (94%), Lithuania (88%) and the UK (71%).

Monthly Data, Exports



The United States, Qatar and Russia were the biggest exporters of LNG to Europe both in 2021 and in 2022, followed by Algeria and Nigeria.

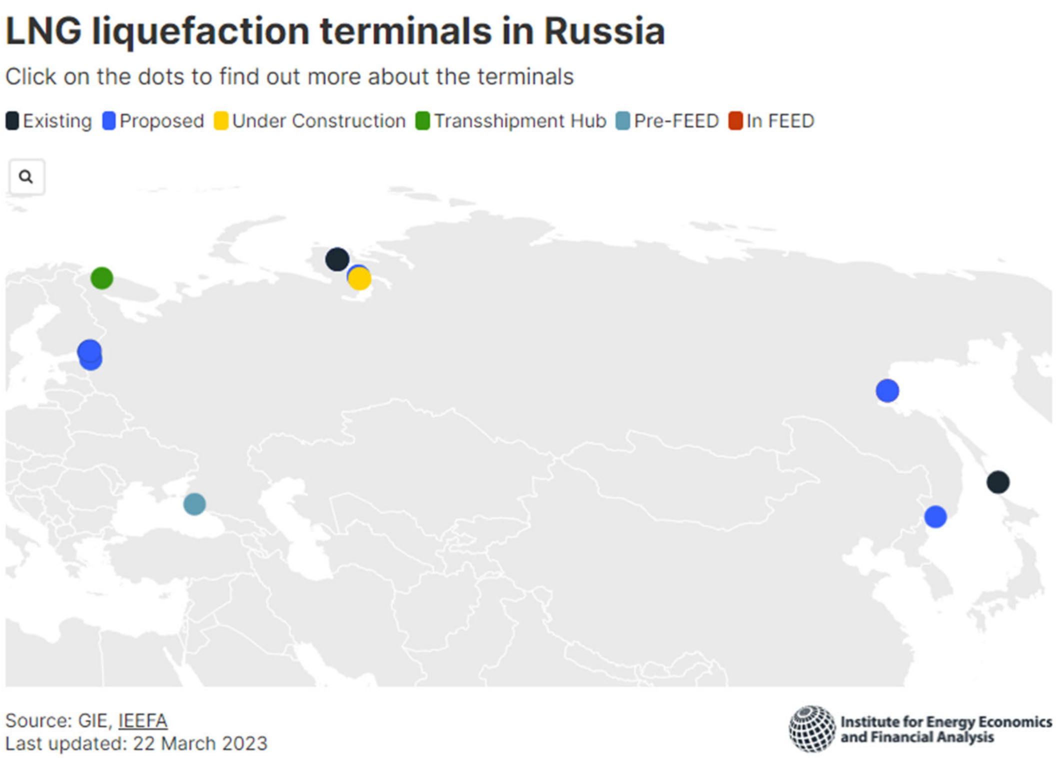
In 2021, U.S. supplied 28% of Europe's LNG; in 2022, it jumped to 42%, representing an increase of 143% of LNG volumes supplied to Europe.

Qatar's LNG exports to Europe increased 23% from 2021 to 2022, while Russia's LNG exports increased 12%.

Other countries started exporting LNG to Europe in 2022, including Cameroon, Dominican Republic, Jamaica, Oman, UAE, Chile, China, Indonesia, Mozambique and South Korea. Countries that increased their LNG exports to Europe included Egypt, Trinidad and Tobago, Peru, Equatorial Guinea, Angola, Norway, Australia. Spain increased its LNG re-exports to Europe.

Algeria, Nigeria, Brazil and Singapore reduced their LNG exports to Europe in 2022.
In 2022, LNG exports from the U.S. peaked in January with 7.7 bcm, Qatar's exports peaked in July with 3 bcm, and Russia's exports peaked in March with 2.1 bcm.

Russian LNG Flows to Europe



Russia has four existing LNG terminals, three in the Atlantic basin (Yamal LNG, Portovaya LNG and Vysotsk LNG) and Sakhalin in the Pacific basin. Yamal LNG is the biggest export terminal with 17.44 Mtpa of liquefaction capacity, followed by Sakahlin with 10.8 Mtpa of liquefaction capacity. Portovaya LNG has 1.5 Mtpa liquefaction capacity and Vysotsk LNG, 0.66 Mtpa.

Yamal LNG started operations in 2018. Its owners are Novatek (50.08%), TotalEnergies (20.02%), CNPC (20%), Silk Road Fund (9.9%). An integrated project that includes natural gas production, liquefaction and shipping. Consists of construction of a LNG plant with an output capacity of around 16.5 million tons per year, using the South Tambey Field as a resource base.

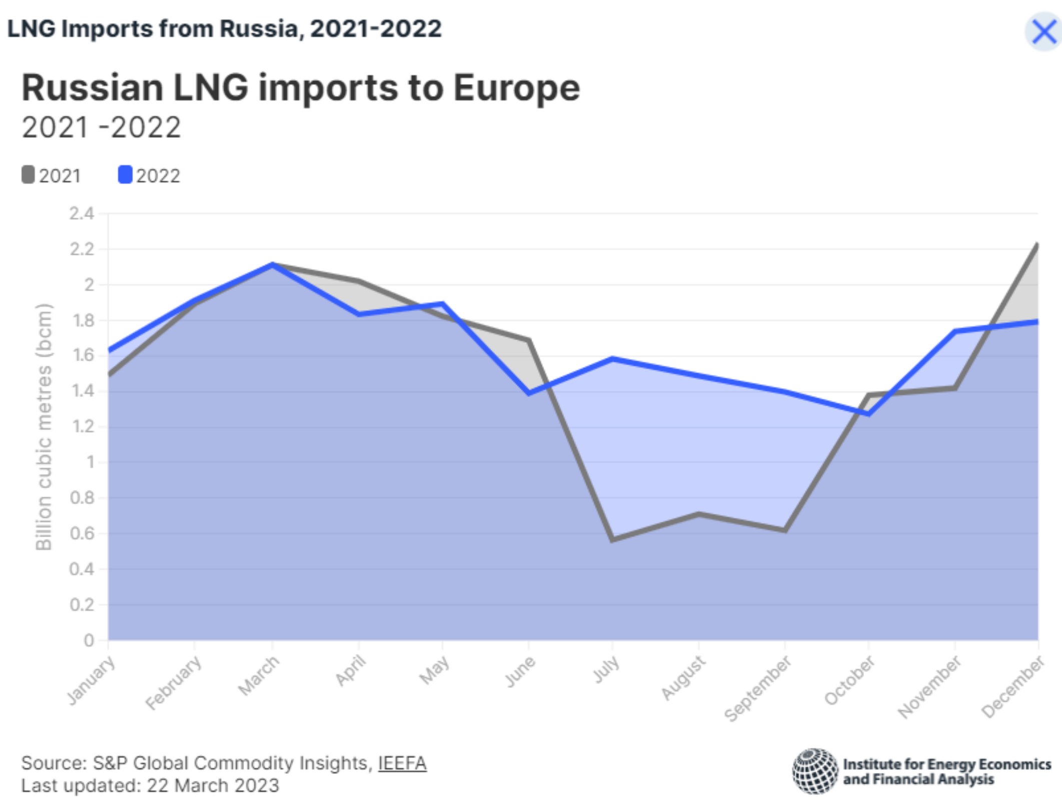
The Sakhalin-1 oil and gas development project is located off the coast of Sakhalin Island in the Russian Far East. It comprises three offshore fields: Chayvo field, which came online in October 2005, followed by the Odoptu and Arkutun-Dagi fields in 2010 and 2015. The partners are ExxonMobil (30%), SODECO (30%), ONGC Videsh (20%), and Rosneft (20%). It was operated by Exxon Neftegas (ENL), a subsidiary of ExxonMobil that holds a 30% participating interest, but Russian authorities temporarily re-nationalised the Sakhalin 1 oil and gas project in October 2022. There has been talk in the past of building an LNG liquefaction plant.

Sakhalin-2 is the world's largest integrated oil and gas project and Russia's first LNG plant. It involves the development of two large offshore fields: Piltun-Astokhskoye (mostly oil) and Lunskoye (mostly gas). Shaklin-2 started operations in 2009. It's owned by

Gazprom (50%), Mitsubishi (10%), Sakhalinskaya Energiya OOO (27.5%) and Mitsui (12.5%).

Portovaya LNG started exporting LNG in September 2022 and serves as a floating storage unit for the project, which obtains feedgas from Russia's Unified Gas Supply System (UGSS), close to the Portovaya Compressor Station that pushes gas through Nord Stream I. It's owned by Gazprom.

Vysotsk LNG started operations in 2018 and is co-owned by Novatek (51%) and Cryogas (49%). Novatek is a public company with shares traded on the London and Moscow stock exchanges. The major shareholders of Novatek are Leonid Michelson, the CEO, who holds about 24.76% of the shares. Gennady Timchenko owns 23.49%, France's TotalEnergies has 19.4%, and Gazprom owns 9.99%.



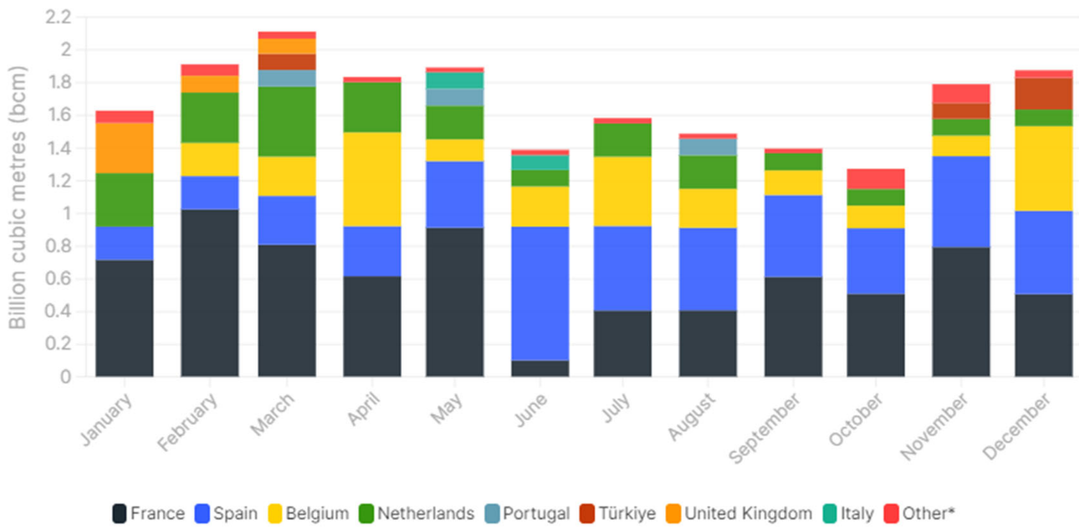
While Russian piped gas exports to Europe have fallen, Russian LNG exports to Europe have been increasing. Europe is aware that the lack of diversification of energy suppliers for the last two decades greatly increased the dependency on Russian gas. LNG regasification terminals have been built with the aim of importing LNG from countries around the globe, but Europe continues depending on Russian gas that is imported as a liquid.

Russian LNG imports increased 12% in 2022 (20.2 bcm) in comparison with 2021 (18.0 bcm). Imported Russian LNG increased 136% between the third quarters of 2021 and 2022.

Monthly Data, 2022

Imports of Russian LNG in 2022 by country

Enter series to show



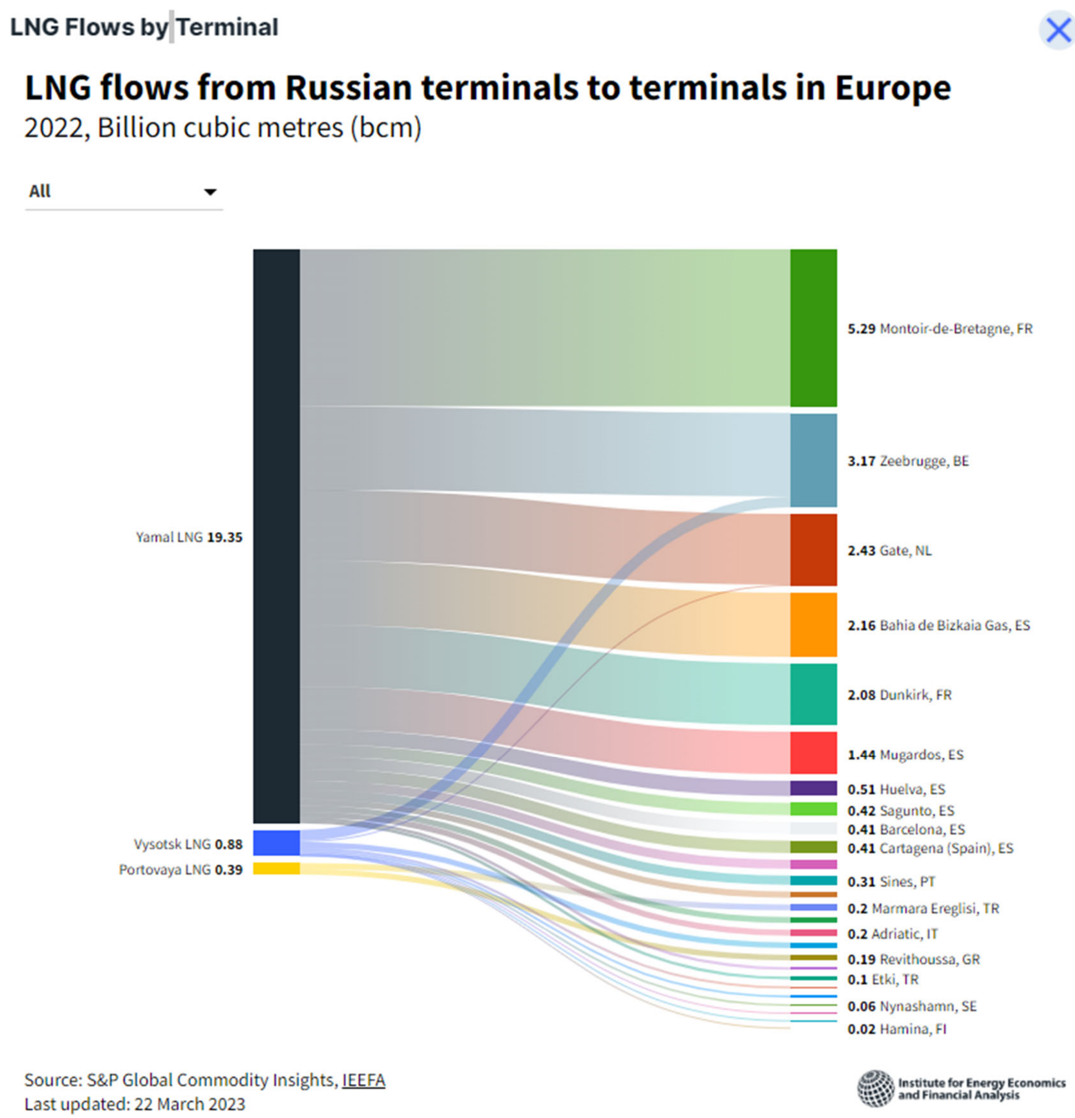
Source: S&P Global Commodity Insights, IEEFA • *Other includes: Finland, Greece, Lithuania, Sweden, Norway
Last updated: 22 March 2023

Institute for Energy Economics and Financial Analysis

In 2021, the UK was the third-largest importer of Russian LNG (18.7%). Last year, however, imports were reduced by 85% after an April 2022 halt. France, Spain, Belgium and the Netherlands continued being among the largest importers of Russian LNG in 2022.

In 2022, Belgium and France increased its Russian LNG imports by 58% over the previous year, and Spain by 50%. Although the Netherlands continued importing Russian LNG in 2022, its imports fell by 10%. The four countries accounted for 90% of all Russian LNG imports in 2022; in 2021, they accounted for 71%.

Greece, Italy and Türkiye began importing Russian LNG in 2022. Croatia, Lithuania, the Netherlands, Portugal, Sweden and the UK reduced Russian LNG imports.



Yamal LNG has been the biggest source of Russian LNG exported to Europe. In 2022, Yamal LNG exported cargoes to Belgium, France, Italy, the Netherlands, Portugal, Spain, Türkiye and the UK (until March 2022).

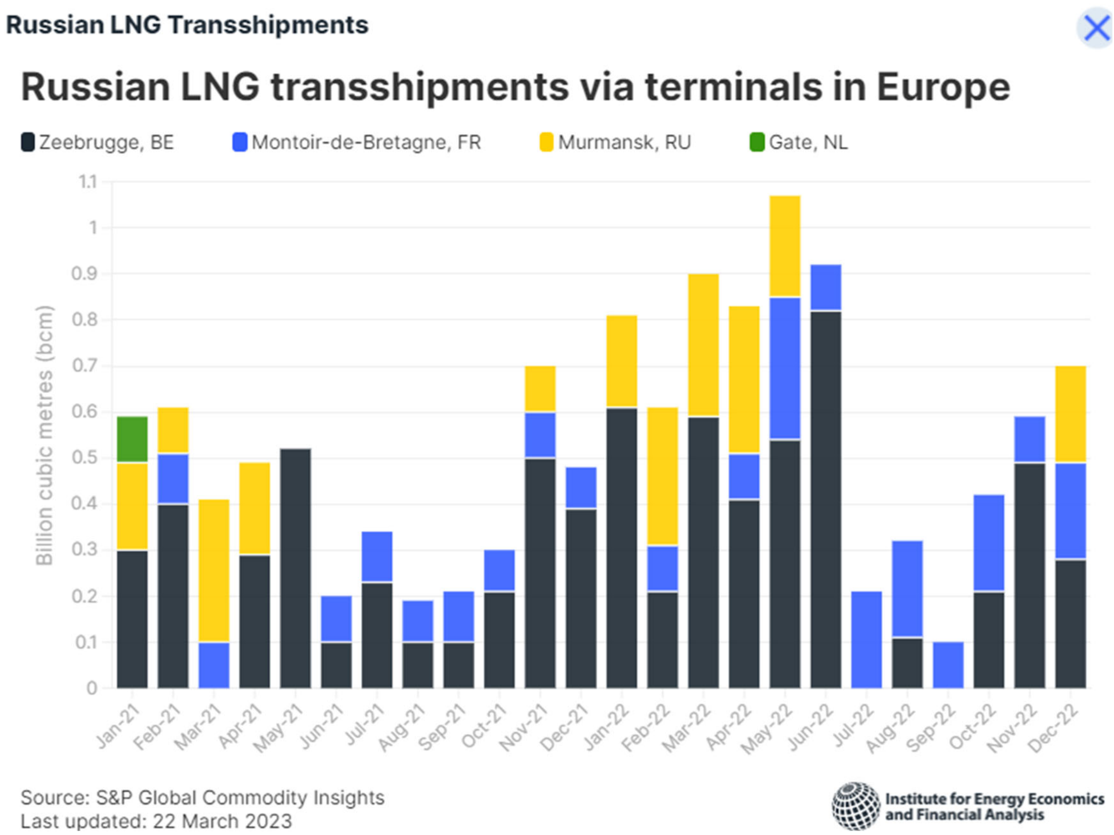
Both in 2021 and 2022, Vysotsk LNG exported volumes to Belgium, Finland, Lithuania, the Netherlands, Norway and Sweden. Portovaya LNG has exported cargoes to Greece and Türkiye since the end of 2022.

Yamal exported great volumes of LNG in 2022 to French Montoir-de-Bretagne LNG (5.29 bcm), Belgian Zeebrugge LNG (2.81 bcm), Dutch Gate LNG (2.39 bcm), French Dunkirk (2.08 bcm) and six operational LNG terminals in Spain (4.91 bcm).

From 2021 to 2022, Montoir-de-Bretagne LNG increased its imports of Yamal LNG by 111%. The Spanish LNG terminals also increased their imports: 299% Sagunto, 149% Huelva and 26% Mugardos, while Bahia de Bizkaia reduced imports by 3%. Barcelona and Cartagena changed from not importing Russian LNG in 2021 to each importing 0.41 bcm. And Zeebrugge LNG increased its imports from Yamal LNG by 59%.

In 2022, Vysotsk exported its greatest volumes of LNG to Zeebrugge in Belgium (0.36 bcm), followed by Tornio in Finland (0.19 bcm).

Portovaya LNG began exporting cargoes in September 2022 to Revithoussa in Greece (0.2 bcm) and in October 2022 to Marmara Ereglisi in Türkiye (0.2 bcm).



Yamal LNG cargoes have been transshipped and exported to European and non-European markets via four LNG terminals: Dutch Gate LNG terminal (no transshipment from February 2021 onwards), French Montoir-de-Bretagne LNG terminal, Russian Murmansk LNG terminal and Belgian Zeebrugge LNG terminal.

Arctic Transshipment LLC, a wholly-owned subsidiary of Novatek, is the owner and operator of two LNG transshipment terminals in the Murmansk and Kamchatka regions of Russia. The terminals are designed to ensure efficient transportation of LNG from Arctic LNG 2 and other Novatek projects by transshipment from Arc7 ice-rated LNG tankers to conventional vessels. Novatek completed the first ship-to-ship LNG transshipment in the Murmansk region in November 2020.

In 2019, a LNG storage tank with a capacity of 180 000 cubic meters of LNG and associated process facilities were built at Zeebrugge LNG terminal in Belgium to serve a 20-year trans-shipment contract with Yamal LNG. The aim is to tranship LNG transported by ice-breaker LNG carriers from the new production terminal in Sabetta, Yamal, to conventional LNG carriers export to Asian and other markets, as well as some European customers.

Russian LNG transshipment volumes increased 48% from 2021 (5.1 bcm) to 2022 (7.5 bcm), mainly due to cargoes sent to non-European markets. The biggest increase occurred at Montoir-de-Bretagne (84%), followed by Murmansk (73%) and Zeebrugge (35%). But in 2022, 57% of all the Russian LNG being transshipped occurred at Zeebrugge with 4.3 bcm, followed by Montoir-de-Bretagne and Murmansk with 1.6 bcm each, with none at Gate LNG. If considering only European terminals, Zeebrugge handled 72% of all Russian LNG transshipments in 2022.

Three-quarters of the total Russian LNG being transshipped in 2021 were exported to markets outside Europe; in 2022, the percentage increased to 82%. Zeebrugge has reported the greatest volumes of transshipped LNG that has been sent to non-European customers: 91% in 2021 and 93% in 2022. Volumes at Montoir-de-Bretagne increased from 33% in 2021 to 63% in 2022.

The European countries that imported volumes of transshipped Russian LNG in 2022 were Belgium, France, Italy, the Netherlands, Spain, Türkiye and UK (until March 2022).

No Silver Bullet in Sight as US Oil Production Slows

As the world scrambles for more oil to shore up energy security and economic growth, the globe's top producer may have had its last hurrah when it comes to boosting output.

The US's oil output growth rate is now decelerating. Three key factors underpin this slowdown: declining acreage productivity, oilfield cost inflation and supply-chain bottlenecks, and a structural shift in investment strategies. None of these factors are set to change in the short or medium term, making a reversal in the production-gain slowdown unlikely.

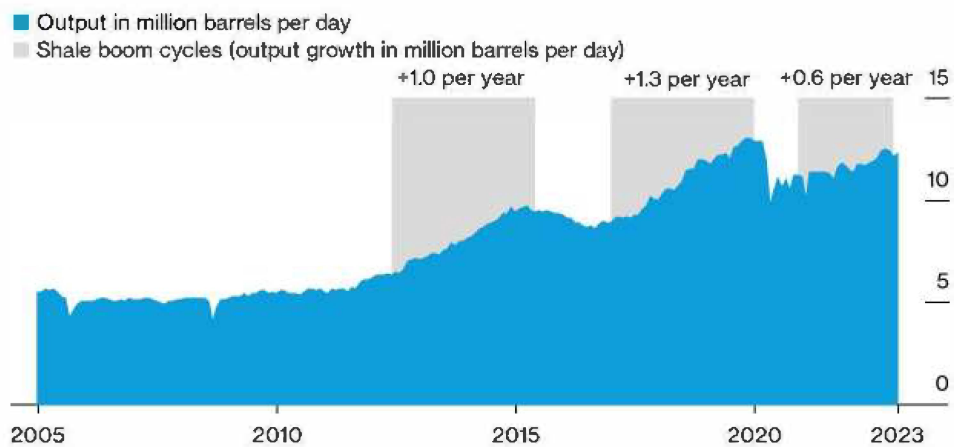
11.88 million b/d

US Crude oil production in 2022

>180,000 b/d

Conoco Phillip's Willow Project peak production

Figure 1: US oil output growth



Source: BloombergNEF, US Energy Information Administration
Note: Data from EIA Short-Term Energy Outlook (STEO). Includes crude oil and condensates.

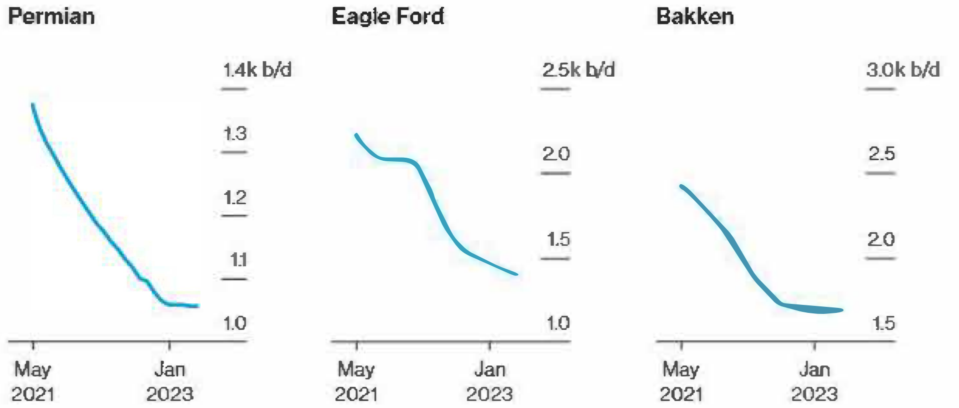
More dollars, same number of wells

After years of intensive drilling on Tier 1 shale assets, these prime acreages are starting to mature, and well productivity and oil recovery rates are declining. Given that these basins are of the highest quality, with superior geological and subsurface formation properties that loan themselves to fracking, this decline is cause for concern.

Based on Bloomberg Intelligence data, shale-well productivity, a measure of the oil production per rig from new wells, is trending downward. Productivity levels in the three largest shale plays – the Permian, Bakken, and Eagle Ford – dwindled by a quarter to a third between May 2021 and February 2023. Operating in these areas means more dollars spent per barrel produced.

Claudio Lubis
clubis@bloombergnef.com

Figure 2: Shale well productivity in major shale plays



Source: Bloomberg Intelligence, BloombergNEF
Note: Well productivity can be measured as the oil production per rig from new wells. b/d stand for barrels per day.

BloombergNEF

2023 Outlook

Reversing declining productivity requires a revolutionary breakthrough in stimulation and hydraulic technology, which seems unlikely to happen soon. Over the coming years, as valuable inventories become exhausted, BNEF expects producers to gradually shift and drill in less-productive Tier 2 and 3 acreages, which often have a higher gas mix and less favorable subsurface rock properties.

The lowest-hanging fruit for companies seeking incremental production gains may be to leverage digitalization and machine learning to optimize productivity.

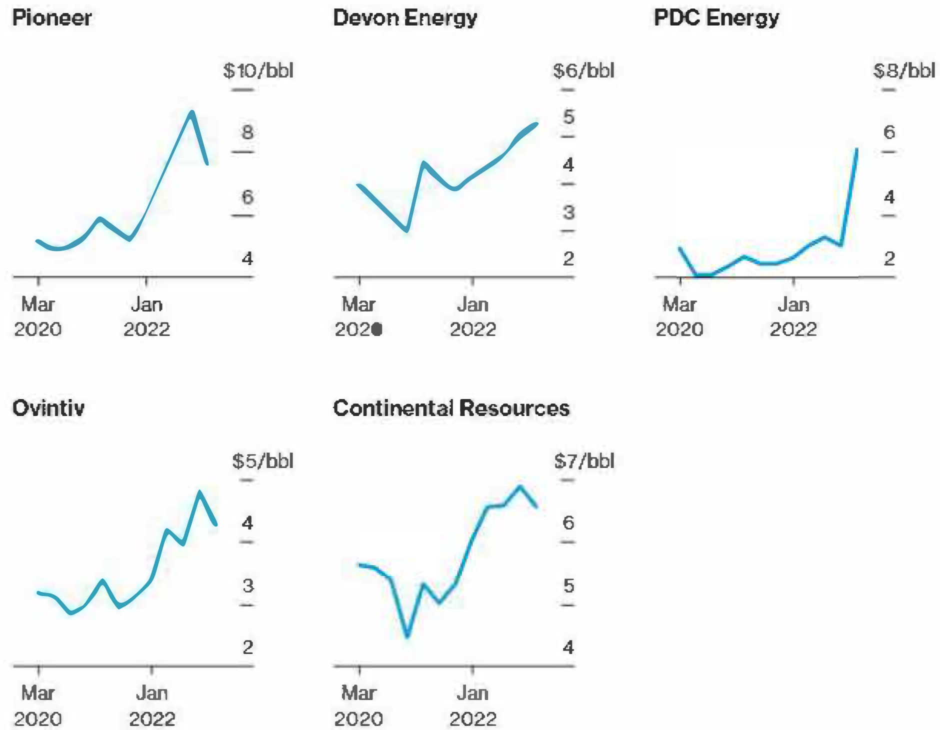
Inflation hits the oilfield, not just the real economy

The US oil industry has also been plagued by supply-chain bottlenecks, labor shortages, and cost inflation for the past year.

Capacity for oilfield services has been tight. After rapidly expanding through pre-pandemic upcycles, companies are now reluctant to revert back to old habits – a move to protect their pricing and profitability amid growing preference for electrons over molecules. Compounding this, personnel shortages from mass pandemic lay-offs dealt a huge blow to operations, with Halliburton and Patterson-UTI being open about their struggles to procure sand and retain frac crews.

Most crucially, operating and transportation costs for materials, including oil country tubular goods, have soared since 2021. This has caused a knock-on effect on the profitability of operations that could deter drilling activities. In turn, this may have put a lid on production over the past year.

Figure 3: Oil well operating costs trended upward in 2022



Source: Bloomberg Intelligence, BloombergNEF.
Note: Costs above refers to lease operating costs. For more information, please see BI OILSN .

BloombergNEF

2023 Outlook

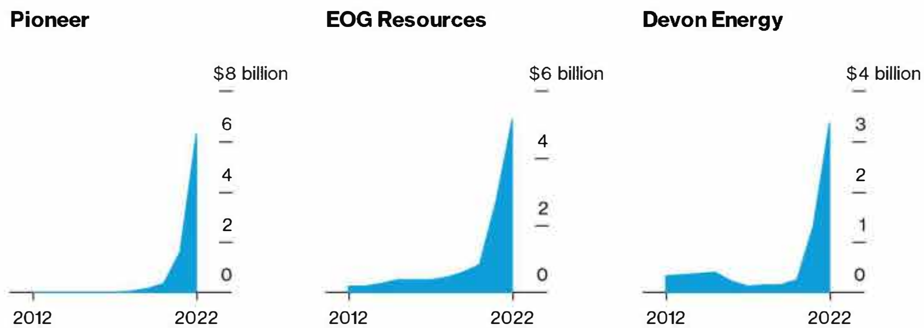
With nationwide economic jitters taming commodity prices and companies ramping up operational efficiencies, oilfield inflation may moderate and soften throughout the year. Nonetheless, these pain points will still linger, as service companies are now opting for value-over-volume targets to shield from financial crunches. Meanwhile, limited equipment availability and a preference for staying put are set to keep supply chains and labor markets tight.

Investment strategy shift is unfavorable for boosting output

When the shale boom first gained pace, sky-high profits were injected into exploration and production, enabling a persistent climb in output. Following years of negative free cash flows, investors and shareholders now want to see returns, especially against the backdrop of uncertain oil-demand trajectories.

As such, companies now tend to funnel a large portion of their capital on share buybacks and dividends. Shale powerhouses Pioneer Natural Resources, Devon Energy, and Diamondback Energy all more than doubled their dividend per share year-on-year in 2022. Across the board, US-based independent producers also markedly boosted their dividend volumes, signaling a visible shift in investment strategies.

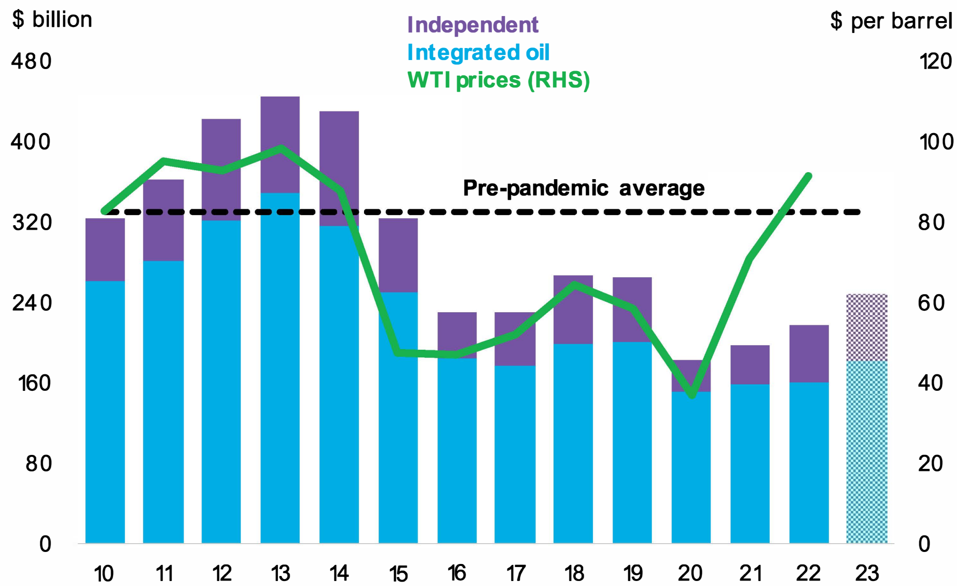
Figure 4: Cash expenditure on dividends for select oil companies



Source: BloombergNEF, Bloomberg Terminal

As for upstream investment, both integrated oil majors and independent producers in the US invested only $217 billion last year, despite the elevated oil price environment. This falls well short of the $266 billion deployed in 2019 – and is little more than half of the $397 billion averaged across 2010 to 2014, when oil prices were at comparable levels. Companies such as ExxonMobil and Chevron have also started to divert some cash into lower-carbon technologies, to try to align with climate targets and disclosures.

Figure 5: US upstream capital expenditures



Source: BloombergNEF, Bloomberg Intelligence. Note: For more, please see BI OILSN <GO>. 2022 and 2023 values are consensus. As of March 19, 2023. WTI tickler is CL1 Index.

Structural underinvestment in the US oil landscape remains a major impediment to output growth. In the short term, additional capex can ease market tightness to ensure adequate supply in the balance. Conversely, a constrained supply-side of the equation can eventually force demand to contract.

2023 Outlook

Companies look set to increase upstream investment, considering rocketing cash flows and profits in 2022. Chevron and Exxon have both announced plans to increase capex this year, with the former planning to spend $4 billion on Permian development and another $2 billion on other tight shale plays. Independent producers like Apache, Devon Energy, and Occidental Petroleum are expected to increase capex by 19.3% this year, as of March 20.

Yet overall upstream investment in 2023 will still trail pre-pandemic levels, as prioritizing capital discipline holds priority. Not to mention, some of this increment will be eaten up by the relatively high costs of oilfield services and goods.

No short-term silver bullet in store – not even Willow

These three key issues are set to persist, meaning production growth is likely to stay in the slow lane with no exit ramp in sight. Not even the recent approval of Conoco Phillip's $8 billion Willow project in Northern Alaska is likely to breathe life back into the struggling output growth rates.

It will take some time for Willow to provide regular, constant oil production. Moreover, assuming a peak production of over 180,000 barrels per day – which will not occur this year or the next – the boost offered by Willow will be inadequate to bring growth rates back up to the pre-pandemic, shale boom heyday levels of over 1 million barrels per day per year.

Simply put, the best shot for reversing this output slowdown is to drill and pump much more – which undermines oil company economics. Tapping into more offshore assets and plays can help alleviate the production crunch, but such a pivot may prove challenging, as the same administration that gave the green light on Willow delayed offshore oil and gas leasing until the end of the year. Even then, the production forecast from the most crucial offshore play, the Gulf of Mexico, sees output rising by only 170,000 barrels per day by 2027, before dropping off with no return in sight.

In the short and medium term, there are no quick fixes, and BNEF estimates that production growth in 2023 will hover around 600,000 barrels per day, or less. This is lower than half the annual production growth between early 2017 and 2020.

Production is slated to slow even more in 2024, with the Energy Information Administration forecasting an annual expansion of just 190,000 barrels per day, for a daily total output of 12.63 million barrels.

Related BNEF Research

- *US Oil Growth Is at Risk as Shale Boom Momentum Fizzles* (web I terminal)
- *US Oil Production Outlook 4Q 2022* (web I terminal)
- *Europe Oil Tracker: Russian Exports to Europe Continue* (web I terminal)
- *Tighter Oil Market Looms as Supply and Demand Diverge* (web I terminal)

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https://twitter.com/AER_news/status/1639049665466503168

Alberta Energy Regulator
@AER_news

An environmental protection order (EPO) has been issued against Obsidian Energy after the AER's investigation concluded the company's disposal operation induced the seismic events in the Peace River region. See details here:

aer.ca
Announcement - March 23, 2023
On Thursday, March 23, 2023, the Alberta Energy Regulator (AER) issued an Environmental Protection Order under ...

5:41 PM · Mar 23, 2023 · **31.2K** Views

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Announcement - March 23, 2023

Order under the Environmental Protection and Enhancement Act for Obsidian Energy

Order under the Environmental Protection and Enhancement Act for Obsidian Energy

On Thursday, March 23, 2023, the Alberta Energy Regulator (AER) issued an Environmental Protection Order under sections 113 and 241 of the *Environmental Protection and Enhancement Act* (*EPEA*) for Obsidian Energy Ltd (Obsidian). The AER has issued this order due to a series of induced seismic events that occurred between November 29, 2022, and March 16, 2023, in the Peace River region.

An investigation conducted by the Alberta Geological Society (AGS), a branch of the AER, has concluded that Obsidian's disposal operation induced the seismic events. The disposal operation includes a well authorized for the disposal of water via injection into the Leduc Formation. The unique geological features of the area also contributed to the seismic events.

While there is no evidence of damages or injuries from these events, this Order and subsequent investigation reflects our commitment to Albertans to ensure safe, efficient, orderly, and environmentally responsible development. The Order is intended to prevent future events and protect Albertans.

Under the order, Obsidian must

- submit plans and take actions acceptable to the AER to reduce the frequency and magnitude of the events.
- establish seismic monitoring in the surrounding area that detects events above a local magnitude of 2.0 M_L.

- install accelerometers at strategic locations within a 10 km radius of the disposal operation to measure vibration.

Investigation timeline:

November 29, 2022

- Seismic events are reported approximately 40 kilometres (km) SE of the town of Peace River, AB, including one event with a local magnitude earthquake of 5.59 M_L

December 2022

- AGS sets up a seismic nodal array around the epicentre of the seismic events.

January to March 16, 2023

- AGS monitors and conducts research and analysis to investigate the cause and correlations and determine if regulatory intervention is required.

March 16, 2023

- A seismic event is reported approximately 42 km SE of Peace River, AB, with a local magnitude of 5.09 M_L.

March 17, 2023

- AGS received new information from the seismic nodal array and determined the seismic events that occurred related to the disposal operation.

March 23, 2023

- The AER issues an *Environmental Protection Order* under the EPEA.

https://www.lre.usace.army.mil/Media/News-Releases/Article/3338591/corps-of-engineers-revises-enbridge-line-5-eis-schedule-to-ensure-thorough-anal/

Corps of Engineers revises Enbridge Line 5 EIS schedule to ensure thorough analysis

U.S. ARMY CORPS OF ENGINEERS, DETROIT DISTRICT
Published March 23, 2023

PHOTO DETAILS / **DOWNLOAD HI-RES** **1 of 1**
The U.S. Army Corps of Engineers, Detroit District, revises schedule following public scoping for Enbridge Line 5 Tunnel permit application review.

DETROIT – The U.S. Army Corps of Engineers, Detroit District, revises schedule following public scoping for Enbridge Line 5 Tunnel permit application review.

Enbridge Energy seeks authorization to cross the Straits of Mackinac and impact adjacent wetlands for construction of the Line 5 Tunnel. The Detroit District, responsible for evaluating the permit application, received more than 17,000 public comments during the NEPA scoping period which ended on October 14, 2022. A scoping report summarizing the comments received, by topic, is available at: https://www.Line5TunnelEIS.com/public-notices/.

“We greatly appreciate the meaningful input received throughout scoping and will use this information to shape studies and continuing consultations throughout development of our draft environmental impact statement” said Detroit District Commander Lt. Col. Brett Boyle.

The Detroit District had originally planned to publish the draft environmental impact statement in late 2023 but is now projecting a Spring 2025 publication. Additional details on the schedule and the steps in the NEPA process are available at https://www.Line5TunnelEIS.com/.

Enbridge Energy is proposing to construct a tunnel under the bed of the Straits of Mackinac between Point LaBarbe, St. Ignace and McGulpin Point, Mackinaw City, Michigan (Line 5 tunnel). Enbridge’s Line 5 tunnel would house a new 30-inch pipeline for light crude oil and liquid natural gas, replacing the existing dual submerged pipelines crossing the Straits of Mackinac, which have been in operation since 1953.

Discharges and activities associated with construction of Enbridge’s Line 5 tunnel require a permit under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act in accordance with federal regulations and policies. The U.S. Army Corps

Engineers is responsible for evaluation of the permit application and to make a decision whether to issue, issue with conditions, or deny Enbridge Energy’s permit application.

The Detroit District provides vital public engineering services in peace and war to secure our Nation, protect the environment, energize our economy and reduce risks from natural disasters.

Contact Detroit District Public Acting Public Affairs Chief Carrie Fox, 906-259-2841, for further information.

Contact
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Release no. 23-008

https://www.argusmedia.com/en/news/2432787-another-french-refinery-to-shut-union?utm_campaign=Oktopost-free-news-oil-products&utm_content=Oktopost-twitter&utm_medium=social&utm_source=twitter&utm_term=oil-products

Another French refinery to shut: Union

Published date: 24 March 2023

ExxonMobil's 236,000 b/d Port Jerome refinery in northern France is poised to halt operations after dock workers at the nearby port of Le Havre voted to extend their strike action for an unspecified period, cutting off crude deliveries to the plant.

The pending closure of Port Jerome, reported by the CGT trade union, will leave France with just two operational refineries, the consequence of more than two weeks of industrial action across the country's downstream sector. Strikes by refinery and port workers are part of nationwide protests against the government's pension reforms.

The CGT said Port Jerome and the adjacent Gravenchon petrochemicals plant will halt operations today. Workers there had expected the refinery to shut earlier in the week, but it stayed open after a cargo of Libyan crude was delivered on 20 March. The refinery has yet to confirm the shutdown.

Elsewhere, four workers at TotalEnergies' nearby 246,900 b/d Gonfreville refinery, which shut down earlier in the week, were requisitioned by police last night to release fuel stocks. Unions say the stocks released were jet fuel, destined for Paris' airports. The requisitioning has prompted members of the CGT union and supporters to boost picket numbers outside the refinery. TotalEnergies confirmed the requisitions had taken place, but pointed to regional authorities for comment.

TotalEnergies 219,000 b/d Donges refinery and 500,000 t/yr La Mede hydrotreated vegetable oil (HVO) plant are both shut as a result of accidents that happened ahead of the strikes. The industrial action has prevented repair work from taking place. No shipments are leaving either site. Meanwhile, TotalEnergies' Flanders logistics depot is blockaded, while its Carling petrochemical plant is operating but at low levels.

UK-Chinese venture Petroineos' 207,100 b/d Lavera refinery in the south of France halted operations earlier this week. It was one of three French refineries served by the Mediterranean port complex of Fos-Lavera, along with ExxonMobil's 133,000 b/d Fos plant and TotalEnergies' 109,300 b/d Feyzin facility near Lyon. Fos and Feyzin are still operating, although no product shipments are leaving either, and it remains to be seen how long they can maintain operations given that no crude is being offloaded at the Fos-Lavera complex.

Dockers at Fos-Lavera will meet today to decide whether to extend their industrial action, which is slated to end at 22:00 local time (21:00 GMT).

As a result of the dockers' action a line of crude and oil product cargoes are at anchor in or around Fos-Lavera, with a smaller number berthed. These include shipments of crude from Libya, the US, Saudi Arabia and Angola, some of which have been waiting since 14 March. A small cargo of Italian crude has been waiting since the end of February. A 785,000 bl shipment of Caspian CPC Blend should arrive tonight.

In addition 745,000 bl of diesel from Kuwait is waiting and a similar-sized diesel cargo from Saudi Arabia is slated to arrive late on 25 March. Around 22,000t of biodiesel is waiting to unload at the port in six tankers. One, the *Basiluzzo M*, has been waiting since 4 March. Cargoes of biodiesel and HVO feedstock including animal fats and vegetable oil are at anchor and more biodiesel is slated to arrive today.

By Adam Porter

https://www.aramco.com/ar/news-media/news/2023/aramco-jv-hapco-to-commence-construction-of-petrochemical-complex-in-china

Saudi Aramco Joint Venture (Aramco Huajin) begins construction on China's mega refinery and petrochemical complex

DHAHRAN, Mar 26, 2023

Saudi Aramco President and CEO Amin Nasser, Saudi Aramco Executive Vice President of Refining, Chemicals and Marketing Mohammed Yahya Al-Qahtani, NORINCO Group Chairman Shiquan Liu, and Licheng Li, Deputy Secretary of the Liaoning Provincial Party Committee and Governor of Liaoning of China, Licheng Li, witness the signing of the agreement to start construction of the main refinery and petrochemical complex in northeast China on the sidelines of the China Development Forum held in Beijing on March 26, 2023. Signatories to the agreement seated: Anwar Al-Hijazi, President of Aramco Asia (left), Yongyang Ren, Chairman of North Huajin (center), and Fei Jia, Chairman of Panjin Industrial Group (right).

- Greenfield project includes 300,1 bpd refinery and 65.<> million tonnes steam cracker
- Saudi Aramco will supply up to 210,<> barrels per day of crude oil feedstock to the project
- Integrated refining and petrochemical complex expected to be fully operational by 2026
- The complex is located in Panjin City, Liaoning Province in northeast China

Saudi Aramco and its partners, Norinco Group and Panjin Industrial Group, plan to begin construction on a large integrated refinery and petrochemical complex in northeast China.

Aramco Huajin Petrochemical Company, a joint venture between Saudi Aramco (30%), Norinco Group (51%) and Panjin Industrial Group (19%), is developing the Greenfield complex project, which will include a refinery with a production capacity of 300,1 barrels per day, a petrochemical plant with an annual production capacity of 65.2 million metric tons of ethylene and <> million metric tons of paraxylene.

Construction is scheduled to begin in the second quarter of 2023 after the project has received the required administrative approvals. It is expected to be fully operational by 2026.

Saudi Aramco will supply up to 210,<> barrels per day of crude feedstock to the complex to be built in Panjin city in China's Liaoning province.

Mohammed Yahya Al-Qahtani, Executive Vice President of Refining, Chemicals and Marketing at Saudi Aramco, said: "This important project will support China's growing demand for fuels and chemical products. It also marks a milestone in our strategy for continued expansion into China and the wider region, which is an increasingly important driver of global petrochemical demand."

Zhou Wenshao, Deputy General Manager of NORINCO Group, said: "This mega refinery and petrochemical complex is a major project for NORINCO Group to contribute to the implementation and joint development of the Belt and Road Initiative, and it promotes the industrial restructuring and the oil and petrochemical sector to become stronger, better and larger. The project will play an important role in deepening economic and trade cooperation between China and Saudi Arabia, and bringing development and prosperity to both."

Jia Fei, Chairman of Panjin Group, said: "This project is of great importance to Panjin in order to encourage the increase of chemicals and specialty products, and to promote integration between the refining and chemicals industry. It is a project that is symbolic for Panjin as it seeks to accelerate the development of an important national base for the petrochemical and fine chemicals industry."

Media Inquiries

All media inquiries are handled by Saudi Aramco's Corporate Communications Department - Media Relations Division. Dhahran - Saudi Arabia

Local Enquiries: domestic.media@aramco.com International Enquiries: international.media@aramco.com

Latest News

https://www.argusmedia.com/en/news/2403155-high-hurdles-to-grow-chevrons-venezuela-oil-output

High hurdles to grow Chevron's Venezuela oil output

Published date: 21 December 2022

Share:

An internal Chevron plan to increase Venezuelan oil production to 200,000 b/d by mid-2023 relies on efforts to rehabilitate some 18,000 wells in various states of disrepair in the country's once-prolific Occidente region.

According to a report from Venezuela state-owned PdV obtained by *Argus*, about 7pc of existing wells in Occidente are operating. The 1,400 or so "Category 1" wells are producing oil, but many at declining rates.

About 8,700 wells fall into Category 2, which includes non-operating wells that may just need minor work to become operational. These wells may need around $500,000 each in new investment to be viable, according to sources familiar with the field.

In Category 3 are more than 7,900 wells that need between $5mn-$6mn of investment each to be commercially viable.

Hundreds of wells in the PdV report are reportedly shut down just for a lack of reliable electricity, which plagues many parts of the country. Many more have been stripped bare of any surface equipment by thieves.

Production in Occidente has declined from 150,000 b/d earlier this year to around 90,000 b/d in November.

Much of Chevron's work in Venezuela has been curtailed in recent years by US sanctions. The US eased some sanctions in late November when the government agreed to resume talks with the opposition about new elections, which will allow Chevron to sell crude from its Venezuela joint ventures.

Chevron was expected to send its first cargo of Venezuelan crude to a US Gulf coast refiner since 2018 by the end of December, but it is not yet clear if that will happen. Government officials are anxious to send a symbolic message with a cargo before the new year, while Chevron appears less concerned with rushing any shipments.

Chevron plans to increase its global spending in 2023 to $17bn, up from around $15bn in 2022, but has not disclosed any specific plans for Venezuela.

By Carlos Camacho

https://tass.com/economy/1592435
21 MAR, 10:49

Russia’s decision on voluntary oil cuts to be in effect until June — Novak

"We will see how the market situation will unfold, and depending on this, decisions will be taken on the market," the Deputy Prime Minister said

MOSCOW, March 21. /TASS/. Russia has decided to extend its decision on voluntary oil production cuts by 500,000 barrels per day through June 2023, Russia’s Deputy Prime Minister Alexander Novak told reporters.

"In accordance with the current market situation, the decision to voluntarily reduce production in the amount of 500,000 barrels per day will be valid through June 2023," he said.

Novak added that Russia is close to reaching the target level of reducing oil production by 500,000 barrels per day (bpd) and will reach it in the coming days. "Russia maintains its position of total rejection of illegal restrictive measures and has voluntarily announced 500,000 barrel per day production cuts since March. Russia is currently on the verge of meeting the target level of reduction - it will reach it in the coming days," he said.

Novak said earlier that Russia has initially made a decision on voluntary reduction of crude production by 500,000 barrels per day for March. "We will see how the market situation will unfold, and depending on this, decisions will be taken on the market," he said, adding that "the present decision has only been made for March."

Novak's representative explained that the reduction would affect only oil output, excluding gas condensate. The production quota will be distributed evenly among oil companies depending on their level of production.

Meanwhile, a TASS source in the industry specified that the reduction in production would be calculated from the real volume of production, and not from Russia’s production quota under the OPEC+ deal. According to the deal, from November 2022, Russia is to produce 10.478 mln barrels per day. In January 2023, as Novak said earlier, Russia produced approximately 9.8-9.9 mln barrels per day.

https://www.kommersant.ru/doc/5841534

- Business

22.02.2023, 20:17

Rosstat: the cost of oil production in 2022 increased by 19%

The average cost of oil production in Russia in 2022 increased to 24.6 thousand rubles. per ton (rubles / ton), which is 19% more than in 2021 (20.69 thousand rubles), follows from the data (.xls) published on the website of Rosstat. Taking into account the average dollar exchange rate last year (67.46 rubles), the average cost of production per barrel of oil in the Russian Federation was $ 50.

According to statistics provided by the department, during 2022, the cost of oil production decreased. In the first quarter, it was 33.1 thousand rubles / ton, in the second - 25.1 thousand rubles / ton, in the third - 21.4 thousand rubles / ton, in the fourth - 18.6 thousand rubles / ton.

Rosstat also reported that oil production in the Russian Federation, taking into account gas condensate in January of this year, amounted to 46 million tons, which is 1% less than in January 2022, and 0.4% less than in December,

The level of oil production excluding gas condensate decreased more significantly. In January 2023, it amounted to 42 million tons, which is 2.5% and 0.5% lower than in January and December last year, the department added.

Erdni Kagaltynov

https://tass.com/economy/1580649

22 FEB, 11:28

Russia second by average daily oil production in December 2022 — statistics

Russia's crude oil production was 10.873 mln barrels daily in December 2022, while the US lifted 12.087 mln barrels per day and Saudi Arabia produced 10.435 barrels per day

MOSCOW, February 22. /TASS/. Russia was second in crude oil production after the United States in December 2022, the state statistics service Rosstat reported on Wednesday. Saudi Arabia was third.

Russia's crude oil production was 10.873 mln barrels daily in December 2022, while the US lifted 12.087 mln barrels per day and Saudi Arabia produced 10.435 barrels per day.

The country produced in total 534 mln metric tons of oil during January - December of the last year, up 2.1% in annual terms. Crude oil production in December had an uptick by 0.1% in annual terms to 46.2 mln metric tons.

https://tass.com/economy/1579341

21 FEB, 02:52

Russia has decided on voluntary reduction of oil output only for March, says Novak

It is noted that companies' output reduction in March will be proportional to production

MOSCOW, February 21. /TASS/. Russia has only made a decision on voluntary reduction of crude production by 500,000 barrels per day for March so far, Deputy Prime Minister Alexander Novak told reporters, adding that the policy would be extended later depending on the situation.

"We will see how the market situation will unfold, and depending on this, decisions will be taken on the market," he said, adding that "the present decision has only been made for March."

Companies' output reduction in March will be proportional to production, Novak noted. "Yes, depending on production," he said.

Earlier, Novak said that Russia planned a voluntary decrease in oil production by 500,000 barrels per day in March.

A representative of the Deputy Prime Minister said later that the reduction in production would affect only oil, without taking gas condensate into consideration. Meanwhile, a TASS source in the industry specified that the reduction in production would be calculated from the real volume of production, and not from Russia's production quota under the OPEC+ deal. According to the deal, from November 2022, Russia is to produce 10.478 mln barrels per day. In January 2023, as Novak said earlier, Russia produced approximately 9.8-9.9 mln barrels per day.

https://tass.ru/ekonomika/12290253

SEP 2, 17:44

Ministry of Energy: production of half of oil reserves in Russia is unprofitable at a price of $ 50 per barrel

Deputy head of the department Pavel Sorokin considers the range of $ 55-60 per barrel as a balanced oil price for 2022

MOSCOW, September 3. / TASS /. The production of about half of the oil reserves in the Russian Federation at a price of $ 50 per barrel is unprofitable. It is worth focusing on working with the current resource base, Deputy Energy Minister Pavel Sorokin said in an interview with the Izvestia newspaper published on Friday.

“Even in our current structure of reserves, a significant part of it is unprofitable at a price of $ 50 - about half there. There is a very large layer of opportunities for working with the current resource base: with small fields, with depleted, with tailing assets, with deeper and more difficult layers. what you need to concentrate on, "Sorokin said.

The Deputy Minister considers the range of $ 55-60 per barrel to be a balanced oil price for next year, but only after the completion of the recovery in the world of production under the OPEC + deal, which under the current terms of the agreement should take place in May 2022.

"In general, after everyone has restored their production to the pre-pandemic level, all other things being equal (and if there are no shocks), the equilibrium price, we think, is in the range of $ 55-60," he said.

Google Translate of TASS Russian story “В Минэнерго сообщили, что рентабельными в России являются только 36% запасов нефти” https://tass.ru/ekonomika/10559021

27 JAN, 04:40

The Ministry of Energy said that only 36% of oil reserves in Russia are profitable

Deputy head of the department Pavel Sorokin noted that the development of deep horizons of Western Siberia will require investments comparable to the cost of drilling in the Arctic

MOSCOW, January 27. / TASS /. Only 36% of 30 billion tons of oil reserves in Russia are profitable, which is associated with the deterioration of development conditions and a drop in the quality of reserves, writes the Deputy Minister of Energy of the Russian Federation Pavel Sorokin in an article for the Energy Policy magazine.

"According to the data of the inventory of the economics of field development, carried out on behalf of the Russian government, out of 30 billion tons of recoverable oil reserves in Russia, only 36% is profitable in the current macroeconomic conditions. This is due to the deterioration of development opportunities: an increase in water cut, the need to permeability and compartmentalization of reservoirs, withdrawal into marginal zones and strata with small thicknesses, and so on, "Sorokin explained.

"All this not only increases the cost of production, but also increases the risks of not confirming the planned development indicators due to the complexity of modeling processes and errors during drilling, for example, the exit from the productive formation during horizontal drilling. As a result, for some assets, the actual profitability of drilling may differ significantly from plans, and reserves are not confirmed, "the deputy minister stressed.

According to him, the quality of reproduction of the resource base is also deteriorating. The average size of new field discoveries in 2015-2019 amounted to 9-14 million tons (excluding several large ones on the shelf and the Payakhskoye field). The increase in reserves in recent years is provided by additional exploration in the operating regions of production, as well as by revaluation of reserves. Basically, in traditional regions, the growth is due to the search for missed deposits or drilling into deep horizons. At the same time, the technological complexity of geological exploration increases significantly.

"It is important to understand that the omission of promising formations when using traditional methods of data interpretation is associated with their small size and complexity. Therefore, it is necessary to apply completely new technologies for exploration and modeling of assets," Sorokin said.

Thus, the question of the future of the Russian oil industry is associated with advanced technological development and increased efficiency. "Only this will allow maintaining the position of one of the lowest producers in terms of cost on the world oil supply curve," the deputy minister sums up.

Investments in the further development of Western Siberia

The development of the deep horizons of Western Siberia will require investments comparable to the costs of drilling in the Arctic, which are traditionally very high, Sorokin also noted.

"The development of deep horizons requires increased investment. For example, for the pre-Jurassic complex of Western Siberia, capital expenditures for exploratory drilling are comparable to the Arctic - from 500 million rubles or more per well. In terms of major discoveries, the most promising region is the Arctic and the shelf. Here Several major discoveries have already been made in recent years - Neptune, Triton, Payakha with total reserves of more than 1.3 billion tons of oil However, these basins are poorly studied and, given the high cost of exploratory drilling, it is necessary to use completely new modeling technologies for effective localization hydrocarbon deposits, "Sorokin noted.

“Thus, the question of the future of the Russian oil industry is associated with advanced technological development and efficiency gains. Only this will allow us to maintain the position of one of the lowest producers in terms of cost on the world oil supply curve,” the deputy minister added.

According to him, the oil and gas industry is currently facing a number of problems that reduce its competitiveness in the world market.

A common problem is the gradual depletion of reserves in developed fields and a drop in oil production in traditional oil-producing regions. The highest rates are observed in the key oil-producing region of Russia - Western Siberia, where production has decreased by 10% over the past ten years - to 288 million tons, Sorokin concludes.

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27 JAN, 04:26
Only 36% of oil reserves profitable in Russia, energy minister says
This is related to worsening of development opportunities, according to the minister

MOSCOW, January 27. /TASS/. Just 36% of 30 bln tonnes of oil reserves are profitable, Deputy Energy Minister of Russia Pavel Sorokin wrote in his article for the Energy Policy magazine.

"According to data of fields' development economics inventory completed on the instruction of the Russian government, just 36% out of 30 bln tonnes of recoverable reserves of Russian oil are profitable in current macroeconomic environment. This is related to worsening of development opportunities: growing water cut, the need to build costly wells of complex design, low permeability and compartmentalization of reservoirs, the move to marginal areas and beds with low thickness, and so on," the official said.

"All that does not merely increase the lifting costs but also moves upward risks of failure to confirm target development figures because of the complexity of processes modeling and drilling errors, for example, leaving the pay bed in horizontal drilling. The result is the actual profitability of drilling may considerably differ from plans for certain assets and reserves will not be confirmed," Sorokin said.

https://www.reuters.com/business/energy/iraq-halts-northern-crude-exports-after-winning-arbitration-case-against-turkey-2023-03-25/

4 minute readMarch 25, 202312:42 PM MDTLast Updated 5 hours ago

Iraq halts northern crude exports after winning arbitration case against Turkey

By Ahmed Rasheed
and Rowena Edwards

- Summary
- Companies
- Turkey tells Iraq it will respect ruling
- Turkey ordered to pay Iraq around $1.5 billion
- Iraq to hold talks to ensure oil exports through Ceyhan
- International Chamber of Commerce ruled in favour of Iraq
-

March 25 (Reuters) - Iraq halted crude exports from the semi-autonomous Kurdistan region and northern Kirkuk fields on Saturday, an oil official told Reuters, after the country won a longstanding arbitration case against Turkey.

The decision to stop shipments of 450,000 barrels per day (bpd) of crude relates to a case from 2014, when Baghdad claimed that Turkey violated a joint agreement by allowing the Kurdistan Regional Government (KRG) to export oil through a pipeline to the Turkish port of Ceyhan.

Baghdad deems KRG exports via Turkish Ceyhan port as illegal.

The International Chamber of Commerce ruled in favour of Iraq on Thursday, Iraq's oil ministry confirmed on Saturday.

Turkey has informed Iraq that it will respect the arbitration ruling, a source said.

Turkish shipping officials told Iraqi employees at the Ceyhan oil export hub that no ship will be allowed to load Kurdish crude without the approval of the Iraqi government, according to a document seen by Reuters.

Turkey subsequently halted the pumping of Iraqi crude from the pipeline that leads to Ceyhan, a separate document seen by Reuters showed.

On Saturday, Iraq stopped pumping oil through its side of the pipeline which runs from its northern Kirkuk oil fields, an official told Reuters.

Iraq had been pumping 370,000 bpd of KRG crude and 75,000 bpd of federal crude through the pipeline, according to a source familiar with its operations.

"A delegation from the oil ministry will travel to Turkey soon to meet energy officials to agree on new mechanism to export Iraq's northern crude oil in line with the arbitration ruling," a second oil ministry official said.

Iraq will discuss with the relevant authorities ways to ensure the continuation of oil exports through Ceyhan and state-owned SOMO's obligations with oil companies, Iraq's oil ministry said in a statement.

The KRG's ministry of natural resources said the "arbitration ruling in favour of Iraq against Turkey will not impede the relations with Baghdad's government and dialogue to continue."

A KRG delegation is to visit Baghdad on Sunday to discuss energy issues, the Prime Minister of Iraq's Kurdistan region Masrour Barzani said in a tweet.

The ruling, in which Turkey has been ordered to pay Iraq around $1.5 billion before interest, covers 2014-2018, according to a source familiar with the case who spoke on condition of anonymity because they were not authorised to speak with the media.

A second arbitration case, which the source expects to take around two years, will cover the period from 2018 onwards.

Turkish government officials did not immediately respond to requests for comment.

PRODUCTION RISK

The final hearing on the arbitration case was held in Paris in July 2022, but it took months for the arbitrators, the secretariat of the arbitration court and the International Chamber of Commerce to approve the verdict, the source familiar with the process said.

The impact on the KRG's oil production depends heavily on the duration of the Iraqi Turkish Pipeline (ITP) closure, sources said, adding this would cause significant uncertainty to oil firms operating in the Kurdistan Region in Iraq (KRI).

A cessation of exports through the pipeline would trigger a collapse of the KRI economy, according to a letter last year to U.S. representatives from Dallas-based HKN Energy, which operates in the region.

Turkey would need to source more crude from Iran and Russia to make up for the loss of northern Iraqi oil, the letter said.

Analysts have warned that companies could withdraw from the region unless the environment improved. Foreign oil firms, including HKN Energy and Gulf Keystone, have linked their investment plans this year to the reliability of KRG payments, which face months of delays.

Reporting by Ahmed Rasheed in Baghdad and Rowena Edwards in London, and Daren Butler in Istanbul; editing by Jason Neely, Mike Harrison and Clelia Oziel

Mar 24, 2023 11:39:25

OIL DEMAND MONITOR: Tight Market Elusive Even as Skies Busy (1)

Aviation pick-up seen propelling overall demand growth in 2023
Analysts see a flip to market deficit some months down line

By John Deane

(Bloomberg) -- There's a broadly-held view that a tighter oil market is on the way. But predicting just when demand will outstrip available supplies isn't getting any easier.

While signs of swelling consumption are proliferating – with a revival in aviation likely to be the primary driver this year – concerns that stubbornly high inflation, rising interest rates and potential recessions will drag on demand recovery have been reinforced in recent weeks by banking crises on both sides of the Atlantic.

For now, global oil markets are still contending with a surplus as Russian output defies predictions of a slump while fuel demand slowly picks up, the International Energy Agency said in its monthly oil market report.

Supply should "comfortably" exceed demand in the first half of the year, the IEA, which advises major economies, cautioned. Still, markets remain on track to tighten in the second half as rebounding travel and economic activity in China, the biggest oil importer, gather pace.

Demand growth may have started 2023 with a whimper, but it is "projected to end the year with a bang," according to the Paris-based agency. Global consumption will increase by 2 million barrels a day this year to average a record 102 million a day.

Warren Patterson, head of commodities strategy at ING, discusses the current state of oil markets, demand from China and his outlook for commodities. He speaks on Bloomberg Television.Source: Bloomberg

In its monthly report, the Organization of Petroleum Exporting Countries said the market appears on track for a modest surplus next quarter. Earlier, Secretary-General Haitham Al-Ghais had acknowledged that demand in Europe and the US is a concern, even as Asia experiences "phenomenal" growth. The group sees significant pockets of strengthening demand, notably in China and India.

China's demand should rise by a "solid" 1 million barrels a day year-on-year in the second quarter, OPEC said, citing recovering air travel, continued expansion in petrochemical industries, increased mobility and rising construction activity. Similarly, the group sees a "healthy" increase in India's demand in the quarter, amid accelerating construction and manufacturing activity, heightened consumer spending and a steady increase in airline activity.

Read More: Global Oil Demand Tilts Toward India as China's Growth Slows

In the skies, commercial flights have edged above pre-Covid levels in recent weeks, according to Flightradar24 data, with the total as of Monday about 2% above the same point in 2019. In the US, a seven-day average of passengers passing through security turnstiles at airports was just 2% below 2019 levels, according to data recorded by the country's Transportation Security Administration.

Still, other measures suggest that the aviation industry still has some way to go before it gets back to pre-Covid levels.

"While international capacity is expected to increase over the next 10 weeks, and close the gap with 2019 levels of capacity, improvement continues to be a slow process," according to data provider OAG Aviation, which monitors airlines' seating numbers. "By early June, capacity currently looks like it will still be 12% off 2019 levels."

On the roads, congestion exceeded 2019 levels in five of 13 major world cities, including Tokyo, London and Rome, as of Monday, according to BNEF seven-day moving average calculations based on TomTom data. In China, congestion in the major cities has mostly eased back in recent weeks, following sharp gains seen earlier in the year amid the dismantling of the country's Covid Zero travel curbs, according to a BNEF analysis of Baidu data.

Read More: Top Oil Traders Say Crude Prices Won't Stay Down for Long

The Bloomberg oil-demand monitor uses a range of high-frequency data to help identify emerging trends. Following are the latest indicators. The first two tables shows fuel demand and road congestion, the next shows air travel globally and the last is refinery activity:

Demand Measure	Location	%vs 2022	% vs 2021	% vs 2020	% vs 2019	% m/m	Freq	Latest Date	Latest Value	Source
Gasoline product supplied	US	+3.7	+4	+1.4	-4.8	+0.6	w	March 17	8.96m b/d	EIA
Distillates product supplied	US	-12	+11	+4.7	-16	+5.4	w	March 17	3.97m b/d	EIA
Jet fuel product supplied	US	-7.7	+55	+9.5	-11	+21	w	March 17	1.6m b/d	EIA
Total oil products supplied	US	-5.2	+7.1	+3.1	-6.7	-0.9	w	March 17	20.03m b/d	EIA
All motor vehicle use index	UK	+2.1	+24	-1	-3	unch.	m	March 13	97	DfT
Car use	UK	+1.1	+28	-4.2	-8	unch.	m	March 13	92	DfT
Heavy goods vehicle use	UK	-3.8	-1.9	-1	+3	unch	m	March 13	103	DfT
Gasoline (petrol) avg sales per filling station	UK	-9	+49	-6.1	-6.5	+0.4	m	Week to Feb. 26	6,718 liters/d	BEIS
Diesel avg sales per station	UK	-14	+13	-15	-15	-1.3	m	Week to Feb. 26	8,839 liters/d	BEIS
Total road fuels sales per station	UK	-12	+26	-11	-12	-0.6	m	Week to Feb. 26	15,557 liters/d	BEIS
Gasoline	India	-1.4				-0.5	m	March 1-15	1.2m tons	Bberg
Diesel	India	-10				-4.6	m	March 1-15	3.2m tons	Bberg
Jet	India	+19				-0.1	m	March 1-15	0.295m tons	Bberg
LPG	India	-9.7				-15	m	March 1-15	1.2m tons	Bberg
Gasoline	Spain	+2.6				+6.4	m	February	436k m3	Exolum
Diesel (and heating oil)	Spain	-3.6				+9.4	m	February	2,201k m3	Exolum
Jet fuel	Spain	+27				-6.5	m	February	394k m3	Exolum
Total oil products	Spain	+0.4				+6.7	m	February	3,031k m3	Exolum
Road fuel sales	France	-5.2				-7.7	m	February	3.56m m3	UFIP
Gasoline	France	+2.5					m	February	n/a	UFIP
Road diesel	France	-7.7					m	February	n/a	UFIP
Jet fuel	France	+29		-11		-6.2	m	February	531k m3	UFIP
All petroleum products	France	-4.6				-5.5	m	February	4.113m tons	UFIP
All vehicles traffic	Italy	+2.6				+4.7	m	February	n/a	Anas
Heavy vehicle traffic	Italy	+3.5				+14	m	February	n/a	Anas
Gasoline	Portugal	+11	+69	+1.6	+6.4	-4.8	m	February	80.3k tons	ENSE
Diesel	Portugal	+4.6	+32	+1.8	+2.2	-2.1	m	February	387k tons	ENSE

Jet fuel	Portugal	+45	+498	+4.5	+19	-6.9	m	February	109k tons	ENSE

Notes: Click here for a PDF with more information on sources, methods. The frequency column shows w for data updated weekly, 2/m for twice a month and m for monthly.

In DfT UK daily data the column showing versus 2019 is actually showing the change versus the first week of February 2020, to represent the pre-Covid era.

In BEIS UK daily data, the column showing versus 2019 is actually showing the change versus the average of Jan. 27-March 22, 2020, to represent the pre-Covid era.

After December, Atlantia ceased publishing its toll road data.

City congestion:

Measure	Location	Mar 20	Mar 13	Mar 6	Feb 27	Feb 20	Feb 13	Feb 6	Jan 30	Jan 23	Jan 16	Jan 9	Jan 2
Congestion	Tokyo	106	91	88	92	92	83	85	88	86	88	62	67
Congestion	Taipei	80	84	74	85	83	83	78	48	86	107	99	93
Congestion	Jakarta	87	89	99	93	75	79	83	79	73	79	72	52
Congestion	Mumbai	52	39	49	50	49	51	53	47	56	56	57	48
Congestion	New York	87	86	80	70	77	79	75	73	76	68	69	63
Congestion	Los Angeles	92	96	93	86	92	92	93	93	97	81	73	54
Congestion	London	125	117	117	96	119	121	110	125	130	122	98	65
Congestion	Rome	116	113	107	99	102	100	106	102	109	104	68	62
Congestion	Madrid	73	89	86	74	81	85	85	80	87	84	57	55
Congestion	Paris	106	108	82	78	99	105	99	101	102	103	81	65
Congestion	Berlin	106	85	100	97	101	99	88	93	100	99	85	59
Congestion	Mexico City	72	77	81	75	83	83	72	78	75	77	58	36
Congestion	Sao Paulo	87	99	86	56	71	92	80	66	65	59	45	29

Source: TomTom. Click here for a PDF with more information on sources, methods

NOTE: TomTom changed its methodology for calculating traffic delays with data for Feb. 20 and no longer publishes comparisons with pre-Covid levels. We have therefore switched to using figures calculated by BNEF, which show 7-day moving average congestion indexed to average 2019 levels. See the linked PDF for more details.

Air Travel:

Measure	Location	vs 2022	vs 2021	vs 2020	vs 2019	m/m	w/w	Freq.	Latest Date	Latest Value	Source
		changes shown as %									
All flights	Worldwide	+4.3	+29	+37	+10	+3.7	+10	d	March 20	199,247	Flightradar24
Commercial flights	Worldwide	+21	+51	+32	+2.1	+3.4	+3.9	d	March 20	111,810	Flightradar24
Seat capacity per week	Worldwide	+24	+67	+44	-5.6		+0.3	w	March 20 week	99.8m seats	OAG
Air traffic (flights)	Europe				-12	+4	+4.2	d	March 20	25,201	Eurocontrol
Airline passenger throughput (7-day avg)	US	+9	+81	+98	-2	+11	+3	w	March 19	2.36m	TSA
Air passenger traffic per month	China	+38	+81	+420	-20	+8.5		m	February	43.2m	CAAC
Heathrow airport passengers	UK	+81	+1,026	-4.5	-5.2	-5.5		m	February	5.195m	Heathrow

NOTE: Comparisons versus 2019 are a better measure of a return to normal for most nations, rather than y/y comparisons.

FlightRadar24 data shown above, and comparisons thereof, all use 7-day moving averages, except for w/w which uses single day data.

Refineries:

Measure	Location	vs 2022	vs 2021	vs 2019	m/m chg	Latest as of Date	Latest Value	Source
			Changes are in ppt unless noted					
Crude intake	US	-3.2	+6.9	-5.1	+2.4	March 17	15.38m	EIA

						b/d	
Utilization	US	-2.5	+7	-0.3	+2.7	March 17	88.6% EIA
Utilization	US Gulf	-3	+12	+1.3	+4.6	March 17	91.3% EIA
Utilization	US East	-13	-10	-9.4	-12	March 17	68% EIA
Utilization	US Midwest	unch.	+1.5	+1.2	-1.1	March 17	88.7% EIA
Utilization (indep. refs)	Shandong, China	+11	-9.3	-1.4	-3.1	March 24	62.6 % Oilchem

NOTE: US refinery data is weekly. China Shandong utilization is updated twice a month. Changes are shown in percentages for the row on crude intake, while refinery utilization changes are shown in percentage points. SCI99 data on Chinese refinery run rates was discontinued in late 2021.

Previous versions:

Click here for prior versions of the OIL DEMAND MONITOR or run NI OILDEMON

(Updates with analyst comments in video.)

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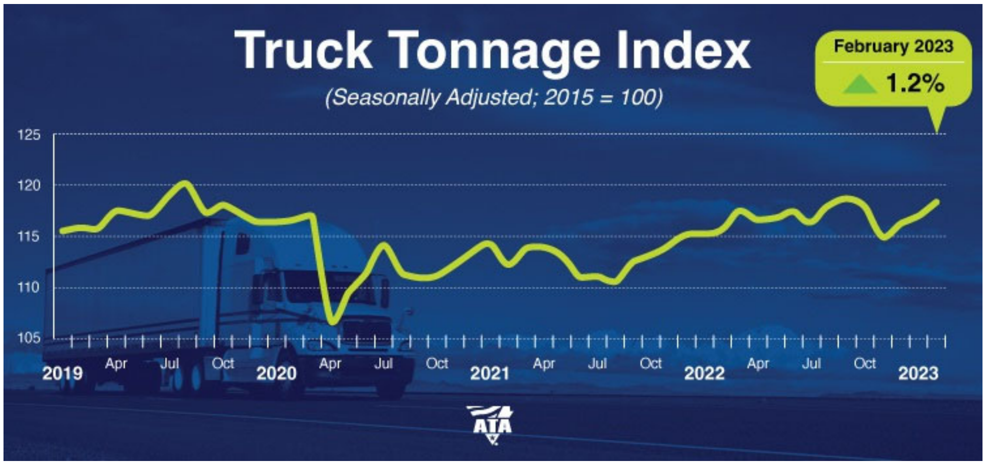
https://www.trucking.org/news-insights/ata-truck-tonnage-index-increased-12-february

ATA Truck Tonnage Index Increased 1.2% in February

By ATA Staff

Mar 21, 2023

Washington — American Trucking Associations' advanced seasonally adjusted (SA) For-Hire Truck Tonnage Index rose 1.2% in February after increasing 0.6% in January. In February, the index equaled 118.4 (2015=100) compared with 117 in January.



"Tonnage has increased sequentially for the last three months totaling 2.9 percent," said **ATA Chief Economist Bob Costello**. "As a result, the index is just 0.3 percent below the recent high in September. The fact that our index is growing sequentially and on a year-over-year basis demonstrates that contract freight continues to hold up at high levels.

"Looking ahead, we continue to see evidence the inventory cycle is improving, which means bloated stocks will stop being a headwind and eventually help truck freight volumes," Costello said. "Increased infrastructure spending will also boost volumes heading into the summer months. However, we expect to see continued freight softness related to lower home construction and slowing factory output."

Compared with February 2022, the SA index increased 2.3%, which was the eighteenth straight year-over-year gain, but the largest since October. In January, the index was up 1.4% from a year earlier. In 2022, compared with the average in 2021, tonnage was up 3.5%.

The not seasonally adjusted index, which represents the change in tonnage actually hauled by the fleets before any seasonal adjustment, equaled 107.6 in February, 4.5% below the January level (112.6). In calculating the index, 100 represents 2015. ATA's For-Hire Truck Tonnage Index is dominated by contract freight as opposed to spot market freight.

Trucking serves as a barometer of the U.S. economy, representing 72.2% of tonnage carried by all modes of domestic freight transportation, including manufactured and retail goods. Trucks hauled 10.93 billion tons of freight in 2021. Motor carriers collected $875.5 billion, or 80.8% of total revenue earned by all transport modes.

ATA calculates the tonnage index based on surveys from its membership and has been doing so since the 1970s. This is a preliminary figure and subject to change in the final report issued around the 5th day of each month. The report includes month-to-month and year-over-year results, relevant economic comparisons and key financial indicators.

https://www.tipro.org/newsroom/tipro-news/tipro-highlights-continued-upstream-employment-growth-in-january

MARCH 10, 2023

TIPRO HIGHLIGHTS CONTINUED UPSTREAM EMPLOYMENT GROWTH IN JANUARY

Austin, Texas - Citing the latest Current Employment Statistics (CES) report from the U.S. Bureau of Labor Statistics (BLS), the Texas Independent Producers and Royalty Owners Association (TIPRO) today highlighted new employment figures showing continued growth in monthly employment for the Texas upstream sector and continued demand for available talent throughout the industry.

According to TIPRO's analysis, direct Texas upstream employment for January 2023 totaled 198,100, an increase of 1,700 jobs from revised December employment numbers. Texas upstream employment in January 2023 represented the addition of 24,000 positions compared to January 2022, including an increase of 1,600 jobs in oil and natural gas extraction and 22,400 jobs in the services sector.

The Houston metropolitan area, the largest region in the state for industry employment, showed an increase of 700 upstream jobs in January compared to December, for a total of 66,400 direct positions, according to TIPRO. Houston metro upstream employment in January 2023 represented an increase of 6,200 jobs compared to January 2022, including an increase of 400 in oil and natural gas extraction and 5,800 jobs in the services sector.

TIPRO's new employment data also indicated strong job postings for the Texas oil and natural gas industry for the month of January to start the year. According to the association, there were 12,478 active unique jobs postings for the Texas oil and natural gas industry in January, including 5,313 new job postings added in the month by companies.

Among the updated 17 specific industry sectors TIPRO uses to define the Texas oil and natural gas industry, Support Activities for Oil and Gas Operations continued to lead in the rankings for unique job listings in January with 3,062 postings, followed by Gasoline Stations with Convenience Stores (2,152) and Crude Petroleum Extraction (1,191). The leading three cities by total unique oil and natural gas job postings were Houston (4,149), Midland (905) and Odessa (472), said TIPRO.

The top three companies ranked by unique job postings in January were Love's (1,151), Baker Hughes (617) and John Wood Group (582), according to TIPRO. Of the top ten companies listed by unique job postings last month, five companies were in the services sector, followed by three midstream companies, one in oil and natural gas extraction and one in gasoline stations with convenience stores.

Top posted industry occupations for January included heavy tractor-trailer truck drivers (373), maintenance and repair workers (361) and managers (310). Top qualifications for unique job postings included valid driver's license (2,023), commercial driver's license (CDL) (289), and CDL Class A license (195). TIPRO reports that 38 percent of unique job postings required a bachelor's degree, 32 percent had no education requirement listed, and 31 percent required a high school diploma or GED. There were 1,449 advertised salary observations, or 12 percent of total oil and natural gas job postings, with a median salary of $46,800.

In addition, TIPRO also highlights recent data released from the Texas comptroller's office showing production taxes paid by the oil and natural gas industry to the state of Texas generated nearly $800 million in tax revenue in February 2023. According to the comptroller's data, in February, Texas oil producers paid $492 million in production taxes. Natural gas producers, meanwhile, last month also paid $305 million in state taxes.

Further, the association calls attention to projections showing domestic oil and gas production will continue to rise. Oil output in the Permian Basin is forecasted to hit a record 5.68 million barrels per day (bpd) this month, according to the U.S. Energy Information Administration (EIA). In the Eagle Ford Shale in South Texas, oil output in March is also anticipated to reach 1.18 million bpd. Overall, U.S. crude oil production in March will top 9.36 million bpd, forecasts the EIA. Domestic natural gas production also remains strong. In the Permian Basin, natural gas output will hit 22.2 billion cubic feet per day (bcf/d) this month, while production of natural gas in the Eagle Ford Shale is forecasted to grow to 7.422 bcf/d. Altogether, EIA forecasts natural gas production in the United States to total 96.6 bcf/d in March.

"There continues to be a strong demand for talent in the Texas oil and natural gas industry in line with growing exploration and production activity in the state and rising demand for our product," said Ed Longanecker, president of TIPRO. "Our industry is one of the only remaining sectors in the country that provides a pathway for the middle-class to support their families, something we must preserve. Policy decisions being made at the state and federal level should not hinder an industry that is critical to our state, country and allies abroad from an economic and energy security perspective," concluded Longanecker.

For more detailed analysis on the economic impact of oil and natural gas, review TIPRO's "2023 State of Energy Report" here.

https://www.ft.com/content/9264df51-fcbf-4332-bc1f-52afb7f484f2

Fears of an energy price surge percolate through sector

March 23, 2023
Justin Jacobs, Derek Brower, Amanda Chu, Myles McCormick

On Tuesday we highlighted Xi Jinping's visit with Vladimir Putin in Moscow as a key moment in the country's energy ties, and in the broader reordering of the global energy trade after Russia's invasion of Ukraine.

What does Putin have to show for the visit? On the energy front, not much. As our colleagues reported, each side made some vague gestures towards "studying and agreeing" plans for a big new gas pipeline, Power of Siberia 2, that would help offset Russia's loss of the European market, but little concrete progress appears to have been made. The energy trade is almost certain to continue growing, but the visit did not yield the sort of breakthrough that Putin would have wanted.

In today's newsletter Equinor's chief economist tells Derek that under-investment in energy spells disaster in the years ahead. In a new video, Myles reports on the push to green the aviation sector. And Amanda maps out the Republican ESG backlash.

Thank you for reading — Justin

Energy under-investment poses a key risk, says Equinor chief economist

Global energy markets are heading into a "self-inflicted train crash in slow motion", said the chief economist of Norway's state-owned oil company Equinor, as investment in renewables and fossil fuels falls short of ever-rising demand.

Annual clean energy spending is running at about a third of the $3.5tn needed to speed a shift away from fossil fuels to meet global climate targets, Eirik Wærness told me in an interview in Houston.

As a consequence, global demand for fossil fuels is continuing to rise even though investment in new oil and gas supplies has slumped to a level envisaged in some rapid decarbonisation models.

"We're currently spending about $400mn or $500mn a year globally in oil and gas. That's exactly what we have to do if we're on our way to the net zero emissions scenario," said Wærness.

But slashing oil supply only works if an increase in clean energy infrastructure drives down oil demand at the same time — and that is not happening, says Wærness: transition investment is nowhere near the level needed to wean global economies off oil.

"This is a self-inflicted train crash in slow motion, because we don't have the investment. It is a recipe for an energy crunch," he said.

Wærness's comments echo those from both clean energy and fossil fuel analysts who say a dearth of capital spending will leave the world vulnerable to price surges of the kind seen in Europe last year after Russia's full-scale invasion of Ukraine. On Monday, the latest IPCC climate report also called for a rapid scaling-up of clean energy investments.

While Wærness welcomed US and EU efforts to accelerate the rollout of clean energy supply, he warned political efforts to break dependence on Chinese supply chains and reindustrialise western economies could slow the shift and make it more costly.

"This is about hardware, steel, and cement . . . That is fundamentally manufacturing capacity, which you have to build up," he said. "What's the reality of having American iron turned into American steel by organised labour in North America?"

Meanwhile, relying on subsidies to deliver new clean energy capacity or spur electrification in the US without measures to curb consumption of energy, such as a carbon tax, could lead to other distortions, Wærness argued.

"If we hide the true costs [of carbon] or energy from consumers, we don't get an extra incentive to make things smaller, more energy efficient," he said.

Norway's experience with electric vehicles provides an example, Wærness suggested. Subsidies to buy battery-powered cars had rapidly increased their number, and Norway has been repeatedly cited as an example of how quickly customers could switch to EVs.

But the overall car fleet had swollen too, Wærness said. "We've kept a lot of the diesel cars and gasoline cars, and we've added EVs, and it took 10 years before gasoline demand went down," he said. "We've bought an EV instead of taking the bus, or it becomes the second or the third car."

True global decarbonisation to keep warming within 1.5C would take a "massive revolution", Wærness suggested, and would require a carbon price, including a border tax to reflect the climate impact of traded goods and materials. (Derek Brower)

The push towards greener jet fuel

Aviation is a big contributor to global greenhouse gas emissions. But how to decarbonise the sector has long eluded scientists.

Yet as the urgency around tackling climate change intensifies, the industry is keen not to be left behind — and branded a pariah.

The answer, it reckons, is to pivot towards "sustainable aviation fuel" — using biofuels to power aircraft and slash their carbon footprint. But a wholesale shift to SAF presents a host of technical and economic challenges. Widespread usage remains a long way off.

I headed to Seattle to hear the industry's pitch. (Myles McCormick)

Data Drill

US president Joe Biden issued his first veto on Monday, rejecting a Republican-led attempt to ban private retirement funds from considering issues such as climate change in their investment decisions.

The move comes as efforts to crack down on environmental, social, and governance (ESG) investing increase across the US — particularly in Republican-led states.

More than half of US states have taken action against using ESG factors in public retirement plans or targeted funds that have boycotted certain industries, such as fossil fuels, according to a tracker by law firm Ropes & Gray. At least 50 anti-ESG bills have been introduced by states this year, more than double the number introduced in the entirety of 2022.

Florida's Republican governor Ron DeSantis has been among the loudest critics of ESG investing, or what he calls "woke" capitalism, arguing the practice politicises investment decisions while compromising financial returns. Last week, DeSantis announced an alliance with 18 governors committed to curtail ESG investing at the state level.

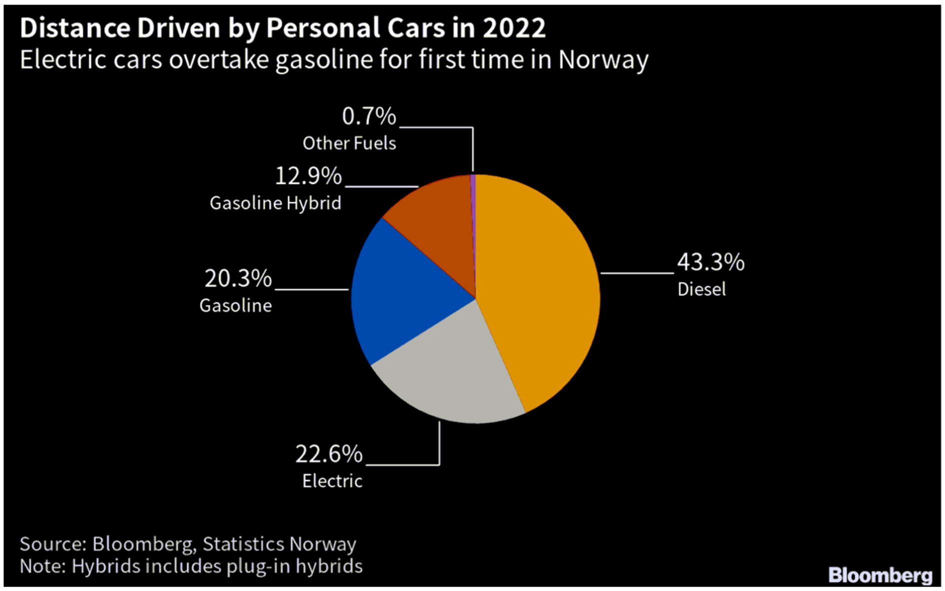
"From a national debate standpoint, [limiting ESG investing] has very little to do with retirement assets," said Josh Lichtenstein, partner at Ropes & Gray, adding that historically, states sided with the federal government's definition of fiduciary standards.

Proponents of ESG investing argue that issues such as climate change can have a significant impact on portfolios and should be a factor in decision-making. More than 250 investors and companies led by climate groups Ceres and the We Mean Business Coalition released a statement today urging policymakers to protect their freedom to consider the material financial risks of climate change in their investment decisions.

"If we don't pay attention to the accelerating frequency of severe weather disasters and the hundreds of billions of dollars they cause, nor to scientists' forecasts for severe risk of more of that, and to entrepreneurial companies' innovations for solving the resulting market needs, then we are not fulfilling our fiduciary duty," said Anne Simpson, global head of sustainability at Franklin Templeton.
For more on ESG themes — and the backlash it has produced — sign up to the FT's Moral Money newsletter. (Amanda Chu)

EV Mileage Passes Gasoline Only Cars in Norway, Trailing Diesel
2023-03-22 09:49:37.858 GMT
By Kari Lundgren
(Bloomberg) -- Norwegian electric cars covered more miles last year than traditional gasoline automobiles for the first time, still lagging behind a declining share of diesel vehicles.

The distance covered by electric cars jumped 34% last year from the year before, Statistics Norway said Wednesday. Electric cars now account for 23% of miles driven, while automobiles fueled only by gasoline made up 20%. Diesel cars drove a whopping 43% of the total.



Norway became the first country to see new electric cars overtake showroom-fresh fossil models in 2020, bolstered by generous incentives such as reduced tolls, use of bus lanes and parking benefits. The oil-rich nation wants new automobile sales to be entirely zero-emission by 2025.
Electric Cars Start Covering More Ground Than Gas Counterparts
Norwegian registered vehicles covered 45.5 billion kilometers (28.3 billion miles) in 2022, 0.7% more than the prior year, the statistics agency said. Buses accounted for the biggest percentage increase, with miles covered by electric cars more than tripling in the past five years.
Now that four out of every five new cars sold are zero-emission vehicles, the government has started winding back EV benefits around urban areas to encourage greater use of public transport.
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https://blinks.bloomberg.com/news/stories/RRWW3HDWLU69

https://insideevs.com/news/629068/norway-electric-car-sales-december2022/

Norway: Electric Car Sales Shoot Through The Roof In December 2022

Roughly four out of five new passenger cars purchased were all-electric.

Jan 03, 2023 at 8:29am ET
11
By: **Mark Kane**

New passenger car sales in Norway almost doubled in December, reaching 39,497 registrations (up 92 percent year-over-year). The recent surge almost allowed Norway to match the previous year's sales volume. In total, some 174,329 new cars were registered in 2022 (down 1.1 percent year-over-year).

Even more spectacular growth in sales is reported by the Norwegian Road Federation (OFV) in the all-electric car segment.

December brought a massive record of new passenger all-electric car registrations, which amounted to 32,714 (an increase of 137 percent year-over-year). That's about 82.8 percent of the total market.

Top Videos:
It seems that finally, some serious BEV shipments arrived in Norway, which indicates that throughout the year, sales were limited by insufficient vehicle supply.

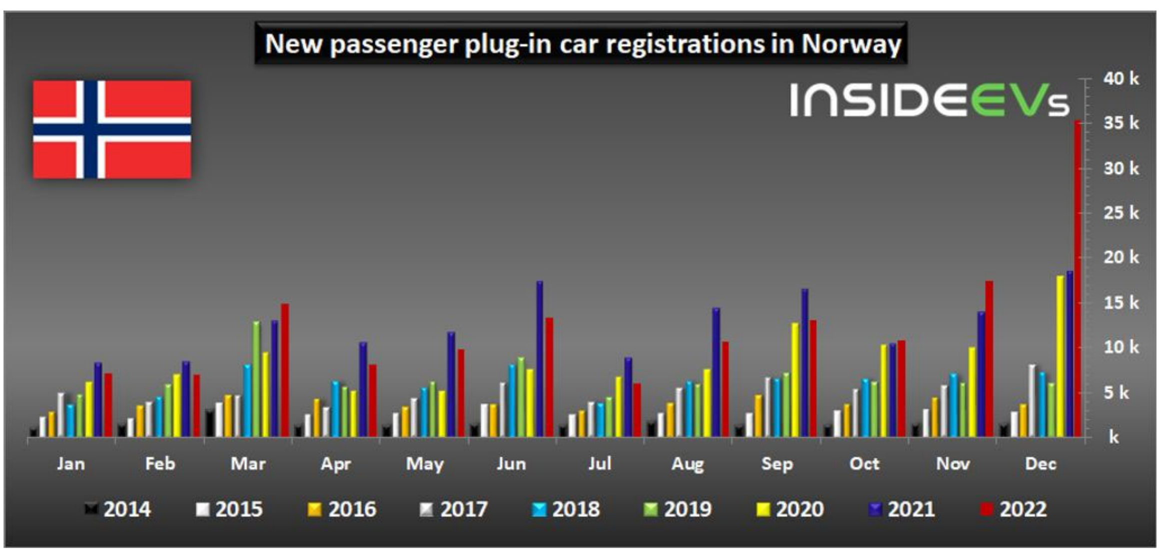
On the plug-in hybrid car side, the 1,905 units registered in December mean a decrease of almost 60 percent year-over-year. Well, PHEV suffered an entire year due to reduced tax incentives (CO2 emission component).

Anyway, the overall plug-in electric car sales were at a record high at over 34,619 units and 87 percent of the market. Norway clearly is at the forefront of electrification and a fifth of all cars in the country are zero-emission today.
Stats for the month:

- BEVs: 32,714 (up 137%, at 82.8% market share) + 1,242 new vans
- PHEVs: *1,905 (down 60%, at 4.8% market share)
- Total: 34,619 (up 87%, at 87.6% market share)

** PHEV numbers updated after the OFV.*

New passenger plug-in car registrations in Norway – December 2022

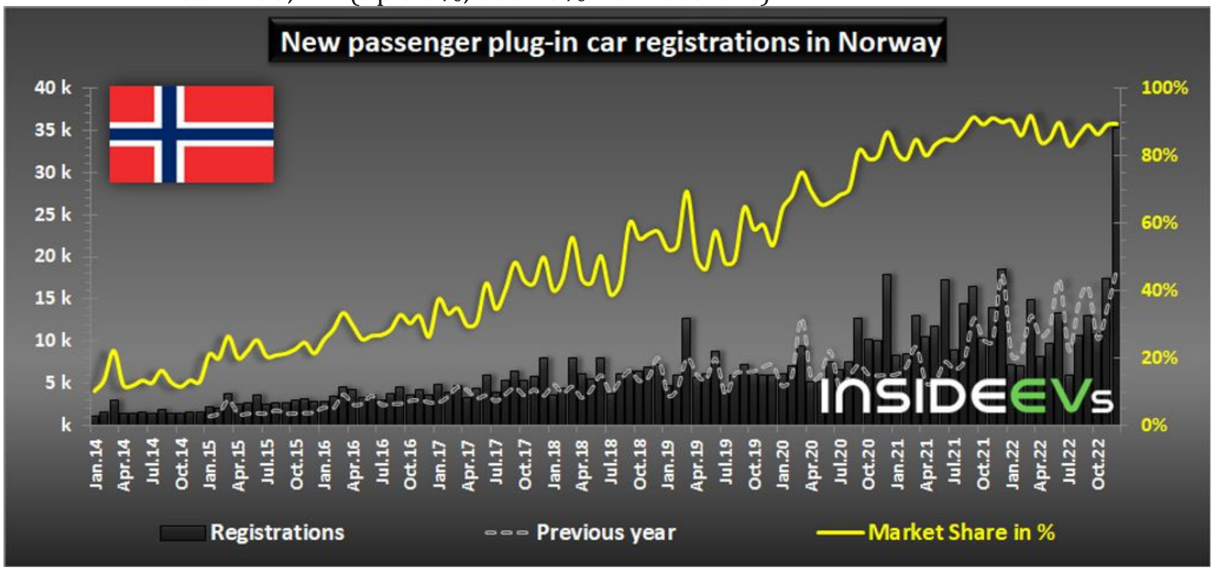


Thanks to the very high number of BEV deliveries during the last month, the overall number of plug-in car registrations (BEVs/PHEVs) in 2022 was higher than in 2021 by almost one percent (153,144 versus 151,917).

We must remember that plug-in hybrid sales collapsed, while at the same time, all-electric cars were up by 21.6 percent.

Plug-in car registrations year-to-date:

- BEVs: 138,292 (up 21.6%, at 79.3% market share)
- PHEVs: 14,857 (down 61%, at 8.5% market share)
- Total: 153,144 (up 0.8%, at 87.8% market share)



The gasoline, diesel, and non-rechargeable hybrids were in the minority in December with 12.4% of the market last month (6.3% gasoline, 2.5% diesel, 3.6% hybrids).

https://deputypm.canada.ca/en/news/speeches/2023/03/20/remarks-deputy-prime-minister-and-minister-finance-oshawa-canadian-economy

Remarks by the Deputy Prime Minister and Minister of Finance in Oshawa on the Canadian economy and the government's priorities heading into the 2023 budget

March 20, 2023
Oshawa, Ontario

CHECK AGAINST DELIVERY

Let me start by acknowledging that we are gathered on land covered under the Williams Treaties, and the traditional territories of the Mississaugas of Scugog Island First Nation.

And I am so glad to be here today with so many incredible members of the International Brotherhood of Electrical Workers—from here in Oshawa and across Ontario.

Over the past year, and before that too, I have spent a lot of time meeting with union workers and union leaders.

All across our great country—at union halls, on job sites, and at places like this—I am so impressed by the remarkable union workers, women and men, who build Canada every single day.

I am so impressed by the rightful pride you take in the skills you have, in the work you do, and in the people you work with.

Our economy depends on people like you—here in Oshawa, across Ontario, and right across our amazing country.

So before I begin, I just want to say: thank you all very much! I am really proud of you and I am proud to have spent some time with you.

I would like to start by speaking about the Canadian economy today.

First: the good news.

Canada has made a remarkable recovery from the COVID recession.

Last year, Canada delivered the strongest economic growth in the G7—stronger than the United States, stronger than the United Kingdom, stronger than Germany, Italy, France, or Japan.

And both the IMF and the OECD have predicted that Canada will see the strongest growth in the G7 over the course of this year.

Now, what does that actually mean? It means there are 830,000 more Canadians working today than before COVID first hit.

We have recovered 126 per cent of the jobs lost to COVID—compared to just 114 per cent in the United States.

When we announced a Canada-wide system of affordable early learning and child care in our 2021 budget, we said it would create new economic opportunities for mothers in Canada—and thus greater prosperity for all of us.

And last month, supported by that system of affordable early learning and child care, the labour force participation rate for Canadian women in their prime working years hit a record 85.7 per cent—compared to just 77.2 per cent in the United States.

Today, I met some amazing Canadian women who are training to be electricians and are about to go on their first placement. Early learning and child care is great for all parents and families, but we know it is especially meaningful for mothers. And I am so glad that system is in place and those fees are coming down. That is going to help some of the women here today, and it will help women across the country have a career and provide for their families.

In fact, child care is delivering such an economic boost to Canada, that our friends are following suit. Just last week, the United Kingdom announced a significant child care plan as part of their budget.

Our unemployment rate is near its record low, and today, there are more Canadians with good jobs than ever before.

These strong jobs numbers matter because a good job is the foundation for a good middle class life—it's how we pay our bills, provide for our children, and build a future for our families, our communities, and our country.

This is a turbulent time in the world economy. So let me point out a second great Canadian strength.

We have strong institutions, and we have a financial system that has proven its strength time and again.

Our financial institutions have the capital they need to weather periods of turbulence.

A hallmark of Canadian banks is prudent risk management—and this is also a core principle for those of us who regulate the financial system.

Today, we are being vigilant—monitoring the situation closely, talking with our allies, and taking a Team Canada approach here at home. Canadians can and should be confident that at a time of global uncertainty, there is no better place to be than Canada.

So, that is the good news.

But I know that everyone here is also familiar with the not-so-good news.

Inflation has fallen in Canada for seven months in a row—and is on track to continue coming down. The Bank of Canada forecasts that inflation will fall to three per cent in the middle of this year, and 2.6 per cent by the end of the year.

But today, inflation, which was 5.9 per cent in January, is still too high. Canadians feel its pinch every day at the grocery store, and at the end of the month when it's time to pay the rent.

To fight inflation around the world, central banks have raised interest rates in what has been the fastest and most synchronised monetary policy tightening since the 1980s.

This steep increase in interest rates is causing another kind of economic pain for many Canadians—many peoples' mortgage payments are higher, and small businesses need to pay more for their lines of credit.

As I've travelled across the country over the past few weeks, doing our pre-budget consultations, I have met with Canadians who are doing well, and with Canadians who are really struggling.

But even in my conversations with the Canadians who tell me they are doing just fine, or even prospering, I have been struck by one common theme—and it has made me really proud to be Canadian.

When I've asked them how they're doing, people who are doing well have said, "I'm fine, actually. I got a raise, and I have a fixed rate mortgage." Or, "I'm great—business is booming, and my biggest problem is that we can't find enough workers."

But then, without fail, comes the next sentence: "I'm worried about some of my friends and neighbours. Their rent is going up, and their wages aren't. They are struggling just to get by."

That's at the heart of what makes us Canadian. Even if we're okay, we worry about our neighbours. We worry about our friends. We believe in taking care of each other.

Our government understands that, which is why, over the past seven years, we have worked energetically to strengthen our social safety net.

It is there today for the Canadians who need it the most—for our children, for our seniors, for our least well-paid.

Our enhanced social safety net includes an expanded Canada Workers Benefit for those who do essential jobs but don't get paid very much.

It includes the Canada Child Benefit—and now, affordable early learning and child care—for parents raising their children, our country's future.

It includes increased Old Age Security and Guaranteed Income Supplement benefits for our seniors.

Since December, it has included dental care for more than 200,000 children whose parents could not afford to take them to the dentist.

And, critically, all of our most important benefits are indexed to inflation.

This social safety net is there for everyone.

And in the weeks to come, for those Canadians who feel the bite of rising prices the most acutely—for our most vulnerable friends and neighbours—our government will deliver additional, targeted inflation relief.

This support will be narrowly focused and fiscally responsible.

The truth is, we cannot fully compensate every single Canadian for all of the effects of inflation or for elevated interest rates.

To do so would only make inflation worse and force rates higher, for longer. Canadians are smart—all of you here are smart—so I know you understand that.

What Canadians want right now is for inflation to come down and for interest rates to fall.

And that is one of our primary goals in this year's budget: not pour fuel on the fire of inflation.

So, in our budget, we will exercise fiscal restraint.

Higher interest rates are having their intended impact—here in Canada and around the world.

The global economy has slowed down, and the Canadian economy has slowed down.

That means government revenues are lower. And this slow down comes after an extraordinary three years when the federal government provided eight out of every ten dollars to support Canadians and the Canadian economy during the pandemic. Our ability to spend is not infinite.

Canada has the lowest deficit and the lowest debt-to-GDP ratio in the G7, and a Triple-A credit rating.

Our country has a proud tradition of fiscal responsibility, and we are determined to maintain it.

Canada is, after all, a country of peace, order, and good government.

And today, more than ever, that is something to be proud of—and to rely on.

By exercising fiscal restraint, and by not pouring fuel on the fire of inflation today, we will ensure we can responsibly invest in Canadians and in the Canadian economy for years to come—just as we have done for these past seven years.

Because we know that investments in Canadians are also investments in our economy.

We are investing in housing because our economy is built by people, and people need homes in which to live.

To address the shortage of workers that so many of our communities and businesses are faced with, we are investing in ensuring Canadian workers have the skills they need, and that they can travel to where the jobs are.

We have welcomed record numbers of skilled workers to Canada, and we will welcome many more in the years to come.

We are making child care more affordable for families from coast-to-coast-to-coast, meaning more mothers no longer have to choose between their family and their career.

Investments in housing, in skills, in immigration, and in child care: these are not just social policies—they are economic policies, too.

And health care is another one of these policies.

So in our budget, we will deliver the comprehensive health care plan that the Prime Minister announced last month.

With an investment of $198 billion in public health care over the next ten years, we will ensure that Canadians can rely on a world-class, publicly funded health care system—one that is deserving of its place at the heart of what it means to be Canadian.

And we will ensure that a strong and effective public health care system can continue to care for and nurture a strong and healthy Canadian workforce. That is what Canadians deserve. That is what Canadian working people deserve.

Universal and high quality health care is—rightly—a priority for every single Canadian. It is also a national competitive advantage.

This is a significant investment—and a necessary one.

And it will be one of two significant and necessary investments that we will make in our budget.

We will invest in strengthening Canada's universal public health care system. And we will invest in building Canada's clean economy.

Because once we have wrestled inflation to the ground, Canada must navigate two fundamental shifts in the global economy.

First, in what is the most significant economic transformation since the Industrial Revolution, our friends and partners around the world—chief among them, the United States—are investing heavily to build clean economies and the net-zero industries of tomorrow.

At the same time, Putin and the pandemic have cruelly revealed to the world's democracies the risks of economic reliance on dictatorships. As a result, our allies are moving quickly to friendshore their economies and build their critical supply chains through democracies like Canada's.

Together, these two fundamental shifts represent a huge economic opportunity for all of us —for Canada and for Canadian workers like the great people here with me today.

From clean energy, to clean technology, to battery manufacturing, to electric vehicles, we can and we are becoming a global leader in the growing clean economy—because Canadian workers and Canadian businesses have the necessary expertise, and because Canada produces what the world needs.

From energy to critical minerals, Canadian workers can be the ones to provide our allies with the resources they need—and Canadian families and Canadian communities can reap the benefits.

Today, and in the years to come, Canada will either capitalize on this historic moment, on this historic opportunity before us, or we will be left behind as the world's democracies build the clean economy of the 21st century.

To be left behind would mean less investment in our communities, and fewer jobs for an entire generation of Canadians.

That is why the plan we will release next Tuesday will include a serious investment in Canadians—in good jobs, in more vibrant communities, and in a new era of economic prosperity that we will build together.

We will build a Canadian economy that is more sustainable, more secure, and more affordable.

We can create hundreds of thousands of great, middle class jobs, great middle-class careers —in communities big and small—from coast-to-coast-to-coast.

And that is exactly what we will do.

These are great, satisfying, well-paid careers and our government is going to invest to be sure Canada has an abundance of them.

There are some, I know, who are advocating for a different, more reckless approach to government policy: for sweeping, unfunded tax cuts for the wealthy, for a dismantling of the guardrails that make Canada a reliable and desirable place to do business, and for cuts to the EI and the pensions that Canadians have been contributing to for their entire working lives.

Other countries have tried this reckless approach—and they have been brutally punished by the markets.

Our budget will be a serious plan at an important moment in the history of our country, and at a challenging time for the world's economy

A responsible fiscal plan. Supporting Canadians. Strengthening public health care. And building and investing in Canada's clean economy.

A clean economy that is good for working peoples, good for business, good for Indigenous communities, good for the environment, and which makes life more affordable for Canadians.

Where everyone can get the quality health care they need, and where everyone can roll up their sleeves and earn a good living with a good, middle class job.

Where *everyone* can share in the remarkable opportunities that Canada provides.

All of us have the incredible good fortune to live in the greatest country in the world.

And I have never been more excited about the future of our country than I am right now

Because Canada is filled with people who can do, who want to do, really big things. I'm here with a lot of them today.

And it's because of the people like the ones here today—the welcoming, diverse, hard-working, smart and talented people who call our country home—that the 21st century will surely belong to Canada.

https://deputypm.canada.ca/en/news/speeches/2023/03/22/remarks-deputy-prime-minister-and-minister-finance-quebec-city-canadian

Remarks by the Deputy Prime Minister and Minister of Finance in Quebec City on the Canadian economy and the government's priorities heading into the 2023 budget

March 22, 2023
Quebec City, Quebec

CHECK AGAINST DELIVERY

Let me start by acknowledging that we are gathered on the traditional territories of several First Nations, including the Huron-Wendat Nation.

I am so glad to be here today with many of the great workers from FLO here in Quebec City.

Whether it's at union halls, on job sites, or at places like this, I am so impressed by the remarkable workers who build our country every single day.

Our economy depends on people like you—here in Quebec and right across our amazing country.

So before I begin, I just want to say: thank you all very much!

I would like to start by speaking about the Canadian economy today and what that means for Canadians and for the upcoming budget that I'll be tabling next week.

First: the good news.

Canada has made a remarkable recovery from the COVID recession.

Last year, Canada delivered the strongest economic growth in the G7.

There are 830,000 more Canadians working today than before COVID first hit, and we have recovered 126 per cent of the jobs lost to COVID—compared to just 114 per cent in the United States.

When we announced a Canada-wide system of affordable early learning and child care in our 2021 budget, we said it would create new economic opportunities for mothers in Canada—and thus greater prosperity for all of us.

And last month, supported by that national system of affordable early learning and child care, the labour force participation rate for Canadian women in their prime working years hit a record 85.7 per cent—compared to just 77.2 per cent in the United States.

While we can all be proud of the work that has brought us here, this is the result of over half a century of activism on the part of Quebec feminists, who have shown us the way.

Our unemployment rate is near its record low, and today, there are more Canadians with good jobs than ever before.

These strong jobs numbers matter because a good job is the foundation for a good middle-class life—it's how we pay our bills, provide for our children, and build a future for our families, our communities, and our country.

This is a turbulent time in the world economy. So let me point out a second great Canadian strength.

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A hallmark of Canadian banks is prudent risk management—and this is also a core principle for those of us who regulate the financial system.

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However, I know that everyone here is also familiar with the not-so-good news.

Inflation has fallen in Canada for eight months in a row—and is on track to continue coming down. The Bank of Canada forecasts that inflation will fall to three per cent in the middle of this year, and 2.6 per cent by the end of the year.

But today, inflation, which was 5.2 per cent in February, is still too high. Canadians feel its pinch every day at the grocery store, and at the end of the month when it's time to pay the rent.

To fight inflation around the world, central banks have raised interest rates in what has been the fastest and most synchronized monetary policy tightening since the 1980s.

This steep increase in interest rates is causing another kind of economic pain for many Canadians—many peoples' mortgage payments are higher, and small businesses need to pay more for their lines of credit.

As I've travelled across the country over the past few weeks, doing our pre-budget consultations, I have met with Canadians who are doing well, and with Canadians who are really struggling.

But even in my conversations with the Canadians who tell me they are doing just fine, or even prospering, I have been struck by one common theme—and it has made me really proud to be Canadian.

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In our budget, we will also deliver the comprehensive health care plan that the Prime Minister announced last month.

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And we will ensure that a strong and effective public health care system can continue to care for and nurture a strong and healthy Canadian workforce. That is what Canadians deserve.

Universal and high-quality health care is—rightly—a priority for every single Canadian. It is also a national competitive advantage.

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From clean energy, to clean technology, to battery manufacturing, to electric vehicles or electric vehicle charging station, we are becoming a global leader in the growing clean economy—because Canadian workers and Canadian businesses have the necessary expertise, and because Canada produces what the world needs.

Today, and in the years to come, Canada will either capitalize on this historic moment, on this historic opportunity before us, or we will be left behind as the world's democracies build the clean economy of the 21st century. To be left behind would mean less investment in our communities, and fewer jobs for an entire generation of Canadians.

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We can create hundreds of thousands of great, middle-class jobs, great middle-class careers—in communities big and small—in Quebec and across Canada.

And that is exactly what we will do.

Our budget will be a serious plan at an important moment in the history of our country, and at a challenging time for the world's economy.

A responsible fiscal plan. Supporting Canadians. Strengthening public health care. And building and investing in Canada's clean economy.

A clean economy that is good for working peoples, good for business, good for Indigenous communities, good for the environment, and which makes life more affordable for Canadians.

Where everyone can get the quality health care they need, and where everyone can roll up their sleeves and earn a good living with a good, middle-class job. Where *everyone* can share in the remarkable opportunities that Canada provides.

I have never been more excited about the future of our country than I am right now because Canada is filled with people, like you, who can do, who want to do, really big things. And I see many of those people here in the room today.

And it's because of the people like the ones here today—the welcoming, diverse, hard-working, smart and talented people who call our country home—that the 21st century will surely belong to Canada.

IFIC Monthly Investment Fund Statistics – February 2023
Mutual Fund and Exchange-Traded Fund Assets and Sales

March 23, 2023 (Toronto) – The Investment Funds Institute of Canada (IFIC) today announced investment fund net sales and net assets for February 2023.

Mutual fund assets totalled $1.868 trillion at the end of February 2023. Assets decreased by $19.0 billion or 1.0% compared to January 2023. Mutual funds recorded net sales of $3.3 billion in February 2023.

ETF assets totalled $327.9 billion at the end of February 2023. Assets decreased by $1.0 billion or 0.3% compared to January 2023. ETFs recorded net sales of $4.1 billion in February 2023.

Mutual Fund Net Sales/Net Redemptions ($ Millions)*

Asset Class	Feb. 2023	Jan. 2023	Feb. 2022	YTD 2023	YTD 2022
Long-term Funds					
Balanced	(945)	(4,384)	5,067	(5,329)	8,163
Equity	423	(668)	4,702	(245)	7,628
Bond	2,365	3,463	(162)	5,828	194
Specialty	114	649	243	763	874
Total Long-term Funds	1,957	(940)	9,851	1,017	16,860
Total Money Market Funds	1,301	1,098	112	2,398	290
Total	3,258	158	9,963	3,416	17,150

Mutual Fund Net Assets ($ Billions)*

Asset Class	Feb. 2023	Jan. 2023	Feb. 2022	Dec. 2022
Long-term Funds				
Balanced	898.5	911.8	986.5	880.5
Equity	677.8	684.0	708.3	649.4
Bond	231.2	232.3	253.3	222.7
Specialty	23.0	23.0	22.5	22.1
Total Long-term Funds	1,830.5	1,851.0	1,970.6	1,774.7
Total Money Market Funds	37.2	35.7	26.8	34.4
Total	1,867.7	1,886.7	1,997.4	1,809.1

* Please see below for important information regarding this data.

ETF Net Sales/Net Redemptions ($ Millions)*

Asset Class	Feb. 2023	Jan. 2023	Feb. 2022	YTD 2023	YTD 2022
Long-term Funds					
Balanced	167	65	251	232	551
Equity	1,021	(383)	3,104	639	7,402
Bond	1,228	(940)	(53)	288	(322)
Specialty	313	492	309	805	397
Total Long-term Funds	2,729	(766)	3,610	1,963	8,028
Total Money Market Funds	1,371	275	411	1,646	572
Total	4,100	(491)	4,021	3,609	8,600

ETF Net Assets ($ Billions)*

Asset Class	Feb. 2023	Jan. 2023	Feb. 2022	Dec. 2022
Long-term Funds				
Balanced	12.7	12.7	12.2	12.0
Equity	204.3	206.6	206.5	194.9
Bond	81.3	81.6	78.5	80.4
Specialty	11.6	11.4	13.1	10.2
Total Long-term Funds	310.0	312.4	310.2	297.5
Total Money Market Funds	17.9	16.5	6.9	16.3
Total	327.9	328.9	317.1	313.7

* Please see below for important information regarding this data.

IFIC direct survey data (which accounts for approximately 85% of total mutual fund industry assets and approximately 83% of total ETF industry assets) is complemented by estimated data to provide comprehensive industry totals.

IFIC makes every effort to verify the accuracy, currency and completeness of the information; however, IFIC does not guarantee, warrant, represent or undertake that the information provided is correct, accurate or current.

*** Important Information Regarding Investment Fund Data:**

1. Mutual fund data is adjusted to remove double counting arising from mutual funds that invest in other mutual funds.
2. Starting with January 2022 data, ETF data is adjusted to remove double counting arising from Canadian-listed ETFs that invest in units of other Canadian-listed ETFs. Any references to IFIC ETF assets and sales figures prior to 2022 data should indicate that the data has not been adjusted for ETF of ETF double counting.
3. The Balanced Funds category includes funds that invest directly in a mix of stocks and bonds or obtain exposure through investing in other funds.
4. Mutual fund data reflects the investment activity of Canadian retail investors.
5. ETF data reflects the investment activity of Canadian retail and institutional investors.

About IFIC

The Investment Funds Institute of Canada is the voice of Canada's investment funds industry. IFIC brings together 150 organizations, including fund managers, distributors and industry service organizations, to foster a strong, stable investment sector where investors can realize their financial goals. By connecting Canada's savers to Canada's economy, our industry contributes significantly to Canadian economic growth and job creation. To learn more about IFIC, please visit www.ific.ca.

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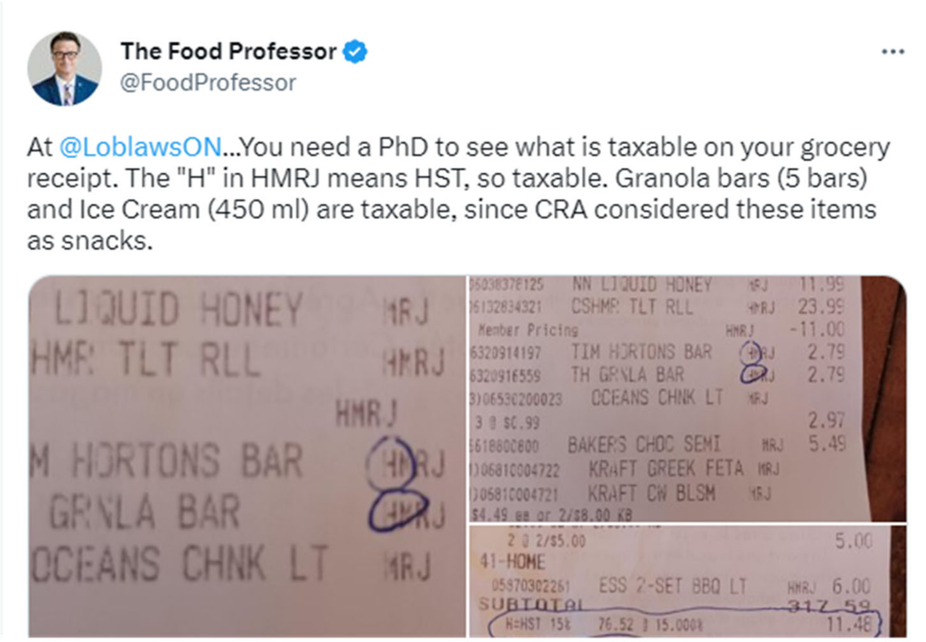

https://torontosun.com/opinion/columnists/charlebois-death-taxes-and-shrinkflation

CHARLEBOIS: Death, taxes and shrinkflation

An increasing number of products, hundreds, are now taxed that weren't before.

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As if shrinkflation wasn't painful enough for all of us, looks like the taxman is making shrinking packages even more painful for our wallets.

Shrinkflation is when a food manufacturer reduces quantities but continues to sell the product at the same price. We have seen this happening pretty much everywhere in all sections of the grocery store. It's even now happening in the fresh section, with strawberries and blueberries.

The Canada Revenue Agency (CRA) has provisions that make some smaller products taxable that weren't in their larger forms. This policy is not new, it actually dates back to 2007, when the GST/HST Memorandum was revised. Some articles of the memo even existed back in 1997.

But what is new is the number of products now subject to this Tax Act due to reduced quantities. An increasing number of products, hundreds, are now taxed that weren't before.

The Act's policy section Schedule VI, Part III clearly defines a snack and the meaning of single serving. For instance, the threshold for ice cream is 500 millilitres. Anything below that means the product is taxable as it is considered a snack, not as part of basic groceries. Cakes, muffins, pies, pastries, tarts, cookies, donuts, brownies, croissants with sweetened filling or coating, or similar products are all taxable if quantities are reduced below thresholds specified by the Act.

If food items are pre-packaged for sale to consumers in quantities of less than six items, these products are taxed. Grocery shopping is complicated enough, but now, due to shrinkflation, consumers have to worry about how much more they need to pay. Depending on the province you live in, it could add 5% to 13% more to the price tag of some products you're buying. And chances are, you have likely never noticed.

Consumers are basically being double slammed by both the industry and the taxman himself, and in most cases, without knowing. By "shrinkflating" a product, consumers get less and are taxed more. Just great.

CRA's GST/HST Memorandum 4.3 on taxable food products includes in it 156 articles. Unless you're a tax expert, few will ever understand or even know how to interpret the Act and appreciate how it will apply to the 18,000 to 25,000 different food products you can find in a regular grocery store. It is practically impossible to know how many items were taxed in compliance with the law.

A recent survey conducted by Dalhousie University, in partnership with Caddle, shows that 67% of Canadians have found at least one mistake on their grocery receipt in the last year. That is an astonishing number. And according to the same survey, only 9.2% have seen tax on a food item that shouldn't have been taxed.

The true number is likely higher, much higher. One can only assume that many consumers wouldn't have been able to pick up on mistakes related to taxable items. The law is incredibly confusing for everyone. Even some grocers have admitted to having made mistakes and having applied taxes on food products when they shouldn't have.

With shrinkflation, many products which are now taxed find their way into lunchboxes for school children. Many are penalized by this. Most of these products were designed to bring convenience to our lives. Paying more taxes is certainly not what most consumers would consider convenient.

In essence, food at the grocery store should never be taxed, unless it is serviced to be consumed right away. Or at the very minimum, the Act should be changed to exempt smaller single servings and packages that include less than six items.

Skrinkflation has been around for well over 30 years, perhaps even longer. The strategy has angered many consumers for obvious reasons. With food inflation being at a 40 year-high these past few months, most consumers are blaming industry for their ills at the grocery store. Yet many tend to forget how our own fiscal regime also makes our food more expensive. The carbon tax is potentially impacting food affordability in our country. On April 1, the carbon tax will rise to $65 a metric ton and will reach $170 a metric ton by 2030. We need to know how the policy will influence our food bill over time.

However, the carbon tax is hidden and impacts the supply chain. A sales tax is very real for all of us. Seeing more taxes added to our food bill as we exit the grocery store adds insult to injury. This is just simply unacceptable.

— Dr. Sylvain Charlebois is senior director of the agri-food analytics lab and a professor in food distribution and policy at Dalhousie University.